FPA/N #: 2817340

Received Date: 2-7-2020

WDFW Concurrence Due Date: —

WDFW Concurrence Review Completed: —

Comments Due Date: 2-21-2020

Decision Due Date: 3-8-2020

FP Forester: SK430

Shutdown Zone: 658

RMAP #: R2800101L

Forest Practices Application/Notification
Office Checklist Page 1
Northwest Region

FPA/N CLASSIFICATION: [ ] II [ ] III [ ] IVG [X] IVS		**Biomass** [ ] **FFFPP** [ ] **20-acre exempt** [ ]	
Landowner Name:	DNR	**Project Name:**	Middle May

WRIA: Snohomish **WAU:** Skykomish River

WRIA: _____ **WAU:** Lower Wallace River

WRIA: _____ **WAU:** _____

Legal Description: 33,34-28-9E; 3,4,12-27-9E **County:** Snohomish

Activity Type: Harvest 193 ac; Spray _____ ac; Stream Crossing(s) 10 _____

Road Construction 30,981 ft; Road Abandonment 8744 ft; Rock Pit 1.6 ac; Spoils 17,100 cy

ALTERNATIVE PRESCRIPTIONS ADDITIONAL COMMENTS:

- [ ] Alternate Plan
- [ ] Ten-Year Forest Management Plan
- [ ] Columbia River Gorge National Scenic Area
- [ ] Watershed Analysis: _____
- EARR Tax Credit [X] Yes [ ] No
- [X] Habitat Conservation Plan
- [ ] Landowner Option Plan for Northern Spotted Owl
- [ ] Cooperative Habitat Enhancement Agreement

RESOURCE REVIEW

- [X] Unstable Slopes (Risk: Highway, Water; _____)
  - [X] Soils Map (Highly Erodible & Very Unstable)
  - [X] SLPSTAB
  - [ ] Landslide Inventory Polygon
- [ ] Potential Avalanche Areas
- [ ] High Avalanche Hazard Area
- [X] Rain-on-Snow and Outside Approved WA
- [ ] Hydric Soils
  - [X] Wetland [X] Forested, [ ] A, [ ] B
- [ ] In WMZ of [ ] A, or [ ] B Wetland
- [X] In RMZ/ELZ of Type [X] S, [X] F, [ ] N water
- [ ] Water Verification
- [ ] Bull Trout Overlay
- [ ] HCP Bull Trout Population
- [ ] Bald Eagle nest or roost within 660 feet
- [ ] Group A or B Water Supply
- [ ] Hatchery (Name: _____)
- [ ] Even-Aged Harvest greater than 120 Acres
- [ ] Ground-based Equipment on Slopes greater than 40%
- [ ] Road Construction on Slopes greater than 65%
- [ ] Saltwater Islands (Name: _____)
- [X] In or Over Typed Water
- [ ] Volume greater than 5 mbf per acre

ASSOCIATED NON-SCANNED DOCUMENTS – On file with the FPA/N at the Region office.

- [X] SEPA Checklist/Documents
- [X] Large Landowner Road Maintenance and Abandonment Plan

ASSOCIATED SCANNED DOCUMENTS

- [ ] Conversion Option Harvest Plan
- [X] FPHP Plans & Specifications
- [X] Qualified Expert Report; Type: GeoTech
- [ ] Natural Regeneration Plan
- [ ] Shoreline Permit
- [X] Marbled Murrelet Form
- [ ] FPBM Appendix(s) _____
- [ ] Small Landowner RMAP Checklist
- [X] CMZ Assessment Form
- [ ] Hardwood Conversion Form
- [ ] Wetland Mitigation Plan
- [ ] Water Protocol Surveys
- [ ] Modification Form# _____
- [ ] Water Classification Worksheet
- [ ] Shade Documentation (Stream Shade Assessment Worksheet)
- [ ] Watershed Analysis Worksheet
- [ ] DFC Printout
- [X] Slope Stability Informational Form

ADDITIONAL COMMENTS:

Form completed by ZM

For DNR Region Office Use Only	
FPA/N #:	2817340
Region:	NW
Received Date:	2-7-2020

Forest Practices Application/Notification
Western Washington

Project Name: Middle May #100161

PLEASE USE THE INSTRUCTIONS TO COMPLETE THIS APPLICATION.

1. Landowner, Timber Owner and Operator

Legal Name of LANDOWNER	Legal Name of TIMBER OWNER	Legal Name of OPERATOR
Department of Natural Resources	☒ Same as Landowner	☒ Same as Landowner
Mailing Address: 919 N Township St.	Mailing Address:	Mailing Address:
City, State, Zip: Sedro-Woolley, WA 98284	City, State, Zip:	City, State, Zip:
Phone: (360) 856-3500 Email:	Phone: Email:	Phone: Email:

2. Contact Person

Contact Person:	Phone: (360) 856-3500
Tim Stapleton	Email: Tim.Stapleton@dnr.wa.gov

3. Are you converting any portion of the land to non-forestry use within 3 years of harvest?

☒ No ☐ Yes If yes, include your SEPA checklist and SEPA determination (if applicable) and county clearing and grading permit (if applicable).

4. If you are harvesting timber, enter the Forest Tax Number of the Timber Owner:

_____

Contact the Department of Revenue at 1-800-548-8829 for tax reporting information or to obtain a number.

a. Are you eligible for EARR Tax Credit? ☐ No ☒ Yes

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5. **Are you a small forest landowner per RCW 76.09.450? See instructions**

☒ No ☐ Yes If yes, **Check all that apply**. If no, skip to Question 6.

- ☐ My entire proposed harvest area is on a single contiguous ownership consisting of one or more parcels.
- ☐ My proposed forest practices activities are within an area covered by an approved Forest Stewardship Plan or Forest Management Plan developed in cooperation with DNR.
- ☐ I received technical assistance from a DNR small forest landowner Stewardship and Technical Assistance Forester in preparing this FPA/N.
- ☐ I have participated in a Washington State University Extension Service and/or DNR-sponsored Forest Stewardship Coached Planning course.
- ☐ I have attended a Washington State University Extension Service and/or DNR-sponsored Family Forest Owner Field Day.

6. **Are you substituting prescriptions from an approved state or federal conservation agreement or Watershed Analysis?**

☐ No ☒ Yes Write 'HCP' or 'Using Prescriptions' in tables that apply. Attach or reference prescriptions and/or crosswalks for approved state or federal conservation agreements or Watershed Analysis on file at the Region office.

See Attached HCP

7. **What is the legal description of your forest practices?**

Section	Township	Range	E/W	Tax Parcel Number	County
33	28	09	E		SNOHOMISH
34	28	09	E		SNOHOMISH
03	27	09	E		SNOHOMISH
04	27	09	E		SNOHOMISH
12	27	09	E		SNOHOMISH

*Does not include legal description for pre-haul maintenance; it is not a Forest Practices activity.

8. **Have you reviewed this forest practices activity area to determine whether it may involve historic sites and/or Native American cultural resources? Read the instructions before answering this question.**

☐ No ☒ Yes If you made any contacts, please provide information in Question 28.

9. **Do you have a DNR approved Road Maintenance and Abandonment Plan (RMAP)?**

☐ No Is a Small Forest Landowner RMAP Checklist required (see instructions)? ☐ No ☐ Yes

☒ Yes Enter your RMAP number: R2800010L

Is this FPA/N for work that is included in this approved RMAP? ☐ No ☒ Yes

10. **Are there potentially unstable slopes or landforms in or around the area of your forest practices activity?**

☐ No ☒ Yes If yes, attach Appendix D. Slope Stability Informational Form and map of areas reviewed for and locations of unstable slopes and landforms found. If applicable, attach a geotechnical letter, memo, or report, Watershed Analysis prescriptions, and/or a SEPA Environmental Checklist.

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11. Is this Forest Practices Application/Notification (answer every question):

a. [X] No [ ] Yes A request for a multi-year permit? If yes, length requested: [ ] 4 years or [ ] 5 years. Not everyone qualifies for a multi-year permit. See instructions for details.

b. [X] No [ ] Yes An Alternate Plan? If yes, include a template or detailed plan. See instructions for details.

c. [X] No [ ] Yes For a funded Forest Family Fish Passage Program project?

d. [X] No [ ] Yes Within an urban growth area? If yes, see instructions for additional required documents.

e. [X] No [ ] Yes Within a public park? If yes, include SEPA Environmental Checklist or SEPA Determination, except for harvest/salvage of less than 5,000 board feet within a developed public park. Park name: _____

f. [ ] No [X] Yes Within 500 feet of a public park? Park name: Wallace Falls State Park

g. [X] No [ ] Yes In an approved Conversion Option Harvest Plan (COHP) from the local government? If yes, include a copy. This only applies to proposals within urban growth areas.

h. [ ] No [X] Yes Within 200 feet of the Ordinary High Water Mark (OHWM) or floodway of Type S Water? If yes, check with the county or city to determine whether a substantial development permit is required under the local shorelines master plan.

i. [ ] No [X] Yes Within 50 miles of saltwater AND you own more than 500 acres of forest land in Washington State? If yes, include Marbled Murrelet Form or attach/reference HCP prescriptions.

j. [ ] No [X] Yes In or directly adjacent to a potential Channel Migration Zone (CMZ)? If yes, include CMZ Assessment Form. Attach/reference applicable HCP and/or Watershed Analysis prescriptions.

You are required to verify all waters within 200 feet of your proposed forest practices activities prior to submitting a Forest Practices Application / Notification. Use the Water Type Classification Worksheet and/or a Water Type Modification form to explain how you verified water types. See Water Typing Requirements in the instructions.

* * * * * **If not working in or over typed Waters, skip to Question 16** * * * * *

Prior to answering Questions 12-15 in this section please refer to the Forest Practices Application Instructions and Forest Practices Board Manual Section 5.

12. Are you proposing any of the following projects NOT permitted by current HPAs from WDFW?

a. [X] No [ ] Yes Installing, replacing, or repairing a culvert at or below the bankfull width of Type S or F Water(s) that exceeds a five percent gradient?

b. [X] No [ ] Yes Constructing, replacing, or repairing a bridge at or below the bankfull width of unconfined streams in Type S or F Water(s)?

c. [ ] No [X] Yes Placing fill material within the 100-year flood level of unconfined streams in Type S or F Water(s)?

13. Have you consulted with DNR and/or WDFW about the proposed hydraulic project(s) in or over Type S or F Water? [ ] No [X] Yes

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14. If installing, replacing, removing, or maintaining structures in or over any typed Water, complete the table below. Provide crossing locations and identifiers on your Activity Map. Provide plan details in Question 28 or attach plan to the FPA/N. Type S and F Waters require detailed plan information. Complex hydraulic projects in Type N Waters may also be required per WAC 222-24-042(2). See instructions for detailed plan requirements.

Crossing Identifier *(letter, number)*	**Water Type** *(S, F, Np, Ns)*	***Existing HPA Number** *(if applicable)*	**HPA Expiration Date** *(if applicable)*	**Planned Activity** *(install, replace, remove, temporary, structure maintenance)*	**Structure** *(bridge, ford/equipment crossing** puncheon/fill, arch, pipe arch, round culvert, other)*	**Proposed Size** *(width x length)*	**Culvert Design Method** *(no-slope, stream-sim, hydraulic, other) (F and S only)*	**Channel Bed Width** *(ft) (F and S only)*	**Stream Gradient** *(%) (F and S only)*	**Is this an RMAP Project?**
					See FPA Narrative					

*Existing HPAs issued by WDFW will be complied and enforced by WDFW until expiration. Plan details are not required for hydraulic projects permitted with an existing HPA (see instructions).

**Fords and/or equipment crossings on Type S and F Waters may result in an unauthorized incidental take of certain threatened or endangered fish species. For more information, see 'Background for the State's Incidental Take Permits for certain threatened and endangered fish species' following Question 22 of the FPA/N Instructions.

15. If conducting any of the following activities in or over typed Water(s), complete the table below. Some activities will require identifiers on the Activity Map and/or more information in Question 28. See instructions.

*Activity	Type S Water	Type F Water	Type Np Water	Type Ns Water
Equipment Crossing**	PROVIDE DETAILS IN QUESTION 14		✓	✓
Suspending Cables		✓		
Cable Yarding		✓		
LWD Placement/Removal	✓	✓		
Beaver Dam Removal				
Felling and Bucking	✓	✓		✓
Other *(describe in Question 29)*		✓		

** Fords and/or equipment crossings on Type S and F Waters must be identified in Question 14.

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16. If constructing or abandoning forest roads, complete the table below. Show the road locations and identifiers on the Activity Map. Include abandonment plans for all temporary roads and abandonment projects.

Road Identifier *(name, number)*	Road Construction		Road Abandonment	
	Length *(feet)*	Steepest Side-slope *(%)*	Length *(feet)*	Abandonment Date

See FPA Narrative

17. If depositing spoils and/or expanding or developing a rock pit for forestry use, complete the table below. Show locations and identifiers on the Activity Map.

Spoil Area Identifier *(letter, number)*	Amount of Spoils Deposited *(cubic yards)*

Rock Pit Identifier *(name, number or letter)*	Acres of New Rock Pit Developed	Acres of Existing Rock Pit Expanded

See FPA Narrative

18. If operating within 200 feet of a wetland that is not associated with Type S or F Water, complete the table below. Wetlands associated with Type S or F water should be listed in Question 25. Show the boundaries of each wetland, along with its identifier, and Wetland Management Zones on the Activity Map. See instructions for information.

Wetland Identifier *(letter, number)*	Wetland Type *(A, B, Forested)*	Planned Activities in Wetland	Planned Activities in Maximum Width WMZ	Total Wetland Acres	How many Acres will be drained?	How many Acres will be filled?

See Aquatics Addendum

* * * * * **If not harvesting or salvaging timber, skip to Question 27** * * * * *

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19. If harvesting or salvaging timber, complete the table below. Show all harvest areas and unit numbers on the Activity Map. For even-aged harvest units, also show surrounding stand information on the Activity Map.

Unit Number	Harvest Type *(Even-aged, Uneven-aged, Salvage, Right-of-Way)*	Biomass Harvest *(Y or N)*	Harvest Method *(rubber tired skidder, tracked skidder, dozer, shovel, full suspension cable, leading end suspension cable, helicopter, cable assist/tethered logging, animal, chipper, forwarder, slash bundler)*	Acres to be Harvested	Volume to be Harvested *(mbf)*	Biomass Volume to be Harvested *(tonnage)*	Volume to be Harvested *(%)*	Steepest Slope in Harvest Unit *(%)*

See FPA Narrative

20. Reforestation. Check all that apply:

- [X] Planting. Tree Species: Douglas-fir, western redcedar
- [ ] Natural. Include a Natural Regeneration Plan
- [ ] Not required because of one or more of the following:
  - [ ] I am converting some or all of this land to non-forest land in the next 3 years or lands are exempted under WAC 222-34-050.
  - [ ] Individual dead, dying, down, or wind-thrown trees will be salvaged.
  - [ ] Trees are removed under a thinning program reasonably expected to maximize the long-term productivity of commercial timber.
  - [ ] I am leaving at least 100 vigorous, undamaged, and well-distributed saplings or merchantable trees per acre.
  - [ ] An average of 190 tree seedlings per acre are established on the harvest area and my harvest will not damage them.
  - [ ] Road right-of-way or rock pit development harvest only.

*** * Do you own MORE than 80 acres of forest land in Washington? If yes, skip to Question 25 * ***

21. Are you using the exempt 20-acre parcel riparian management zone (RMZ) rule (WAC 222-30-023) on Type S, F, or Np Waters?

- [ ] No — Skip to Question 25.
- [ ] Yes — Continue to Question 22. See instructions for qualifications and information.

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22. Choose the answer below that best fits your situation. Show all RMZs on the Activity Map.

☐ **a.** ALL of the following apply to me and my land: (If no, answer b.)

- Between June 5, 2006 and today's date I have always owned less than 80 acres of forest land in Washington.
- Between June 5, 2006 and today's date this parcel has always been 20 acres or less of contiguous ownership. See RCW 76.09.020 for definition of 'contiguous'.
- Between June 5, 2006 and today's date this parcel has always been owned by me or someone else that has owned less than 80 acres of forest land in Washington.

b. ONE OR MORE of the following apply to me and/or my land (check all that apply):
If any of the statements below apply AND you use the exempt 20-acre parcel RMZ rule, you are NOT authorized under the State's Incidental Take Permits (see explanation in FPA instructions under Question 22).

☐ Between June 5, 2006 and today's date I have owned more than 80 acres of forest land in Washington.

☐ Between June 5, 2006 and today's date this parcel has been a part of more than 20 acres of contiguous ownership. See RCW 76.09.020 for definition of 'contiguous'.

☐ Between June 5, 2006 and today's date this parcel has been owned by someone that has owned

23. If harvesting within 115 feet of a Type S or F Water on an exempt 20-acre parcel, complete the table below. Show RMZs and stream segment identifiers on the Activity Map. If you are harvesting within 75 feet or within the maximum RMZ (whichever is less), stream shade must be assessed and met following harvest. Describe in Question 28 how stream shade was determined to be met, using the 'Appendix F. Stream Shade Assessment Worksheet' if necessary.

Stream Segment Identifier *(letter)*	**Water Type** *(S, F)*	**Segment Length** *(feet)*	**Bankfull Width** *(feet)*	**RMZ Maximum Width** *(feet)*	**Are you harvesting within the maximum RMZ?** *(Y or N)*

24. Are you harvesting within 29 feet of a Type Np Water on an exempt 20-acre parcel?

☐ No Skip to Question 27.

☐ Yes See instructions and describe leave tree strategy in Question 28. Then skip to Question 27.

25. If harvesting within 200 feet of any Type S or F Water or periodically inundated areas of their associated wetlands, complete the table below. Include Desired Future Condition (DFC) for all inner zone harvests unless you have an HCP prescription. Show RMZs, CMZs, and stream segment identifiers on the Activity Map. If you are harvesting within 75 feet or within the maximum RMZ, whichever is less, stream shade must be assessed and met following harvest. Describe in Question 28 how stream shade was determined to be met or use the 'Appendix F. Stream Shade Assessment Worksheet' if necessary.

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Stream Segment Identifier *(letter)*	Water Type *(S, F)*	Site Class *(I - V)*	Stream Width *(feet)*	Is there a CMZ? *(Y or N)*	RMZ Harvest Code(s) *(see instructions)*	DFC Run Number	Total width of RMZ *(feet)*
			See Aquatics Addendum				

26. If harvesting within 50 feet of Type Np Water, complete the table(s) below. Show RMZs and stream segment identifiers on the Activity Map.

Stream Segment Identifier *(letter)*	Total Stream Length in Harvest Unit *(feet)*	Length of No-Harvest, 50-foot Buffers in Harvest Unit *(feet)*	Stream Segment Identifier *(letter)*	Total Stream Length in Harvest Unit *(feet)*	Length of No-Harvest, 50-foot Buffers in Harvest Unit *(feet)*
		See Aquatics Addendum			

27. How are the following currently marked on the ground? *(Flagging color, paint color, road, fence, etc.)*

Harvest/Salvage Boundaries: See FPA Narrative

Clumped Wildlife Reserve Trees/Green Recruitment Trees: See FPA Narrative

Right-of-Way Limits/Road Centerlines: See FPA Narrative

Stream Crossing Work: See FPA Narrative

Riparian Management Zone Boundaries and Leave/Take Trees: See FPA Narrative

Channel Migration Zone: See Appendix E.

Wetland Management Zone Boundaries and Leave/Take Trees: See FPA Narrative

28. Additional Information (attach additional pages if necessary): For hydraulic projects in or over Type S, F, or complex N Water(s) see instructions for required plan information. If applicable, include mitigation measures from a geotechnical memo, letter, or report.

See attached FPA Narrative

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29. We acknowledge the following:

- The information on this application/notification is true.
- We understand this proposed forest practice is subject to:
  - The Forest Practices Act and Rules AND
  - All other federal, state or local regulations.
- Compliance with the Forest Practices Act and Rules does not ensure compliance with the Endangered Species Act or other federal, state or local laws.
- If we said that we would not convert any portion of the land to non-forestry use, the county or city may deny development permits on this parcel for the next 6 years.
- The following may result in an unauthorized incidental take of certain endangered or threatened fish species:
  - Conversion of land to non-forestry use.
  - Harvesting within the maximum RMZ on a 20-acre exempt parcel that was acquired after June 5, 2006.
  - Equipment Crossings/Fords in or over Type S and F Waters.
- Inadvertent Discovery – Chapters 27.44, 27.53, 68.50 and 68.60 RCW
  - If you find or suspect you have found an archaeological object or Native American cairn, grave, or glyptic record, immediately cease disturbance activity, protect the area and promptly contact the Department of Archaeology and Historic Preservation at 360 586-3077.
  - If you find or suspect you have found human skeletal remains, immediately cease disturbance activity, protect the area, and contact the County Coroner or Medical Examiner and local law enforcement as soon as possible. Failure to report human remains is a misdemeanor.

The landowner understands that by signing and submitting this FPA, he/she is authorizing the Department of Natural Resources to enter the property in order to review the proposal, inspect harvest operations, and monitor compliance for up to three years after its expiration date. RCW 76.09.150

Signature of Legal LANDOWNER	**Signature of Legal TIMBER OWNER*** *(If different than landowner)*	**Signature of Legal OPERATOR** *(If different than landowner)*
CASCADE DIST MANAGER Print Name: ALLEN McGUIRE Date: 2/5/2020	Print Name: Date:	Print Name: Date:

** NOTE: If you are a "Perpetual Timber Rights Owner," and are submitting this without the Landowner's Signature, provide written evidence the landowner has been notified.*

Please make a copy of this FPA/N for your records. If this FPA/N contains a hydraulic project requiring WDFW concurrence review, it will not be available online for public review until after the WDFW concurrence review period.

Sale Name Middle May App. No _____

FPA Narrative

This proposed activity is being conducted on lands covered by the Department's multi-species HCP. These planned activities are consistent with our approved HCP dated September 1997 and associated Incidental Take Permits. See the attached HCP checklist for habitats and species both covered by our HCP agreement and specifically addressed with this proposal. Additionally, attached are DNR proprietary HCP/FPA substitute Addendums for Aquatic Resources, Northern Spotted Owl and Marbled Murrelets. This proposal also complies with the letter of agreement dated February 23, 2007 between DNR state lands and the US Fish and Wildlife Service.

Question #14:

If installing, replacing, removing or maintaining structures in or over any typed water, complete the table below. Type S and F waters require detailed plan information. Provide plan details in number 31 or attach plan to the FPA/N. Provide crossing locations and identifiers on your Activity Map. (A detailed plan with profiles may also be required for more complex hydraulic projects in Type N Waters per WAC 222-24-042(2)).

	Crossing Identifier (letter and/or number)	**Water Type** (S, F, Np, Ns)	***Existing HPA Number** (if applicable)	**HPA Expiration Date** (if applicable)	**Planned Activity** (install, replace, remove, temporary, structure maintenance)	**Structure** (culvert, bridge, ford**, puncheon, arch, other)	**Proposed Size** (dimensions of structure)	**Culvert Design Method** (No-slope, Stream-sim, Hydraulic, Other) (F and S only)	**Channel Bed Width (ft)** (F and S only)	**Stream Gradient (%)** (F and S only)	**RMAP Project** (Y or N)	**FFFPP Project** (Y or N)
1	MY-ML 54+10*	1	N/A	N/A	Install	Bridge	78'x14'	N/A	38'	7.5	N	N
2	MY-ML 61+85*	3	N/A	N/A	Install	Bridge	50'x16'	N/A	21'	11	N	N
3	MY-ML 72+11*	3	N/A	N/A	Install	Bridge	60'X14'	N/A	8.2'	16	N	N
4	MY-ML 97+53*	3	N/A	N/A	Install	Bridge	15'X16'	N/A	6.1'	9.0	N	N
5	MY-ML 117+02	5	N/A	N/A	Install	Culvert	30"x36'	N/A	N/A	N/A	N	N
6	MY-ML 124+66	5	N/A	N/A	Install	Culvert	30"x32'	N/A	N/A	N/A	N	N
7	MY-21 6+92*~	3	N/A	N/A	Install	Bridge	50'X14'	N/A	7.9'	20	N	N
8	MY-21 27+84	5	N/A	N/A	Install	Culvert	36"x36'	N/A	N/A	N/A	N	N
9	MY-2104-01 1+14	5	N/A	N/A	Temporary	Culvert	24"x40'	N/A	N/A	N/A	N	N
10	MY-2104-01 5+19	5	N/A	N/A	Temporary	Culvert	30"x36'	N/A	N/A	N/A	N	N

Note: See Culvert Location Map for structure locations on the proposal.

~The bridge proposed on the MY-21 road is located at a feature that meets the definition of an inner gorge.

***See concurrence e-mails from WDFW dated 12/10/2019 and 01/06/2020.**

**Existing HPAs issued by WDFW will be complied and enforced by WDFW until expiration. Plan details are not required for hydraulic projects permitted with an existing HPA (see instructions).

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*** Fords and equipment crossings on Type S and F Waters may result in an unauthorized incidental take of certain endangered or threatened fish species. For more information, see "Background for the state's Incidental Take Permits for certain endangered and threatened fish species" following number 22 of the FPA/N Instructions.

Question #15:
Further information relating to this question:
In order to achieve adequate deflection, cables may be suspended over type 3, 4 and 5 streams and their Channel Migration Zones (CMZ). If any trees are required to be felled within a CMZ for operational feasibility, they will be left on site. If yarding occurs over type 5 streams, lead end of logs will be suspended over streams. Equipment for ground-based operations will cross type 5 streams at designated crossings. Type 5 stream crossings by ground-based equipment shall be as close to perpendicular as possible and may require log cribbing, culvert installation, or other approved methods to be in place to protect channels and banks. Timber will be fallen and yarded away from all streams when possible.

Question #16:
Any roads to be built then abandoned (also known as temporary road) that are listed in the table for this Question, are "optional construction roads". Of the length listed in the table, zero feet up to the entire length listed may be built. For further information please see the road plan associated with the timber sale, on file at the Northwest Region Office.

Road Identifier (Name, Number)	Road Construction		Abandonment Plan	
	Length (feet)	Steepest Side-slope (%)	Length (feet)	Abandonment Date
MY-RRG15***	--	--	3140	04/2024
MY-ML*	3380	20	N/A	N/A
MY-ML	18021	65**	N/A	N/A
MY-12	1009	45	1009	04/2024
MY-21	3976	50**	N/A	N/A
MY-2104	1191	45	1191	04/2024
MY-2104-01	811	45	811	04/2024
MY-2106	1653	60	1653	04/2024
MY-43	940	30**	940	04/2024

***Reconstruction**
****Exclusive of existing road/grade cuts**
*****Orphaned grade**

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Sale Name Middle May App. No _____

Question #17:
If depositing spoils and/or expanding or developing a rock pit for forestry use, complete the table below. Show locations and identifiers on your Activity Map.

Spoil Area Identifier *(Number, Letter)*	Spoils Deposited *(Cubic Yards)*	Rock Pit Identifier* *(Name, Number, Letter)*	Acres of New Rock Pit Developed	Acres of Existing Rock Pit Expanded
		MY-0430 (Proposed)	0.8	
		MY-2100 (Proposed)	0.8	
MY-ML 4+40 to 6+40	1000			
MY-ML 83+00 to 86+70	2600			
MY-ML 92+90 to 94+90	1400			
MY-ML 103+08 to 105+68	1800			
MY-ML 112+47 to 114+81	1600			
MY-ML 132+00 to 133+61	1100			
MY-ML 133+61 to 135+79	1500			
MY-ML 140+45 to 145+19	3500			
MY-ML 146+45 to 147+80	1000			
MY-ML 156+11 to 157+02	600			
MY-21 3+71 to 5+05	1000			

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Question #19:

Unit Number	Harvest Type	Biomass Harvest (Y/N)	Harvest Method	Acres to be Harvested	Volume to be Harvested (mbf)	Volume to be Harvested (biomass tonnage)	Volume to be Harvested (%)	Steepest Slope in Harvest Unit (%)
1*	Even-aged	N	Ground	78.3	3,952	--	95	75
2	Even-aged	N	Ground/Cable	51.3	2,971	--	95	60
3	Even-aged	N	Ground/Cable	31.6	1,509	--	95	85
4 ROW	Right-of Way	N	Ground	31.8	1,145	--	100	85
			Total	193.0	9,577			

***Unit 1 is comprised of two sub-units, labelled Unit 1A and Unit 1B on the Activity Map.**

One isolated area of the proposal has a slope of 113%. This area is a fill slope below an orphaned road grade. It is located inside a leave tree area.

Ground-based equipment operations will be limited to sustained slopes 35% or less. Self-leveling equipment may be used on sustained slopes 55% or less. Tethered equipment may be utilized on this proposal.

Question #27:

Harvest/Salvage Boundaries: **White "Timber Sale Boundary" tags and/or painted with two red bands and a yellow "T".**

Clumped Wildlife Reserve Trees/Green Recruitment Trees: **Yellow "Leave Tree Area" tags and/or blue paint.**

Right-of-Way Limits/Road Centerlines: **Orange "Right-of-Way" tags/Orange flagging and wooden stakes.**

Stream Crossing Work: **To be flagged by operator, then approved by State Lands Contract Administrator with consultation of FP.**

Riparian Management Zone Boundaries and Leave/Take Trees: **White "Timber Sale Boundary" tags, no-harvest except road crossing.**

Channel Migration Zone: **See Appendix E.**

Wetland Management Zone Boundaries and Leave/Take Trees: **White "Timber Sale Boundary" tags, no-harvest except road crossing.**

2817340

Question #28:
Activity Map – Leave Tree locations depicted are approximate. Leave trees may be exchanged or traded to locations other than mapped on the Activity Maps to facilitate operational feasibility with the exception of any mapped leave trees shown as "Non-Tradeable Leave Trees."

Additional information pertaining to questions 12c, 13 and 15: This proposal includes stream bank restoration work associated with stream "D", on a portion of an orphaned grade MY-RRG15. See road plan and ICN 135621 for more details.

Portions of the MY-ML and MY-12 will be constructed within the CMZ associated with stream "D." These portions are designed to minimize the road profile. Where the proposed MY-ML road crosses an historic channel a rolling dip is required to reduce the risk of channel capture in the case of channel avulsion.

The abandonment of the MY-12, within the CMZ, will include reshaping the road to more closely mimic the natural landscape. MY-12 will not overwinter for more than one season. Abandonment of this road requires a pre-work meeting with the operator, Contract Administrator and forest practices forester. See road plan and ICN 135621 for more details.

It is anticipated that this proposal will be a Class IV Forest Practices Application due to proposed management activities on potentially unstable landforms identified within the proposal area which includes road construction inner gorge crossing. See ICN # 135622.

Additional Q.16 Road Abandonment
Per the FPA Instructions:
A written plan that shows how the road will be left to:
**Control erosion*
**Maintain water movement within wetlands and other natural drainages, and*
**Prevent four-wheeled highway vehicles from entering the point of closure.*

The following will be accomplished as applicable to meet the on-site conditions during the course of road abandonment work:

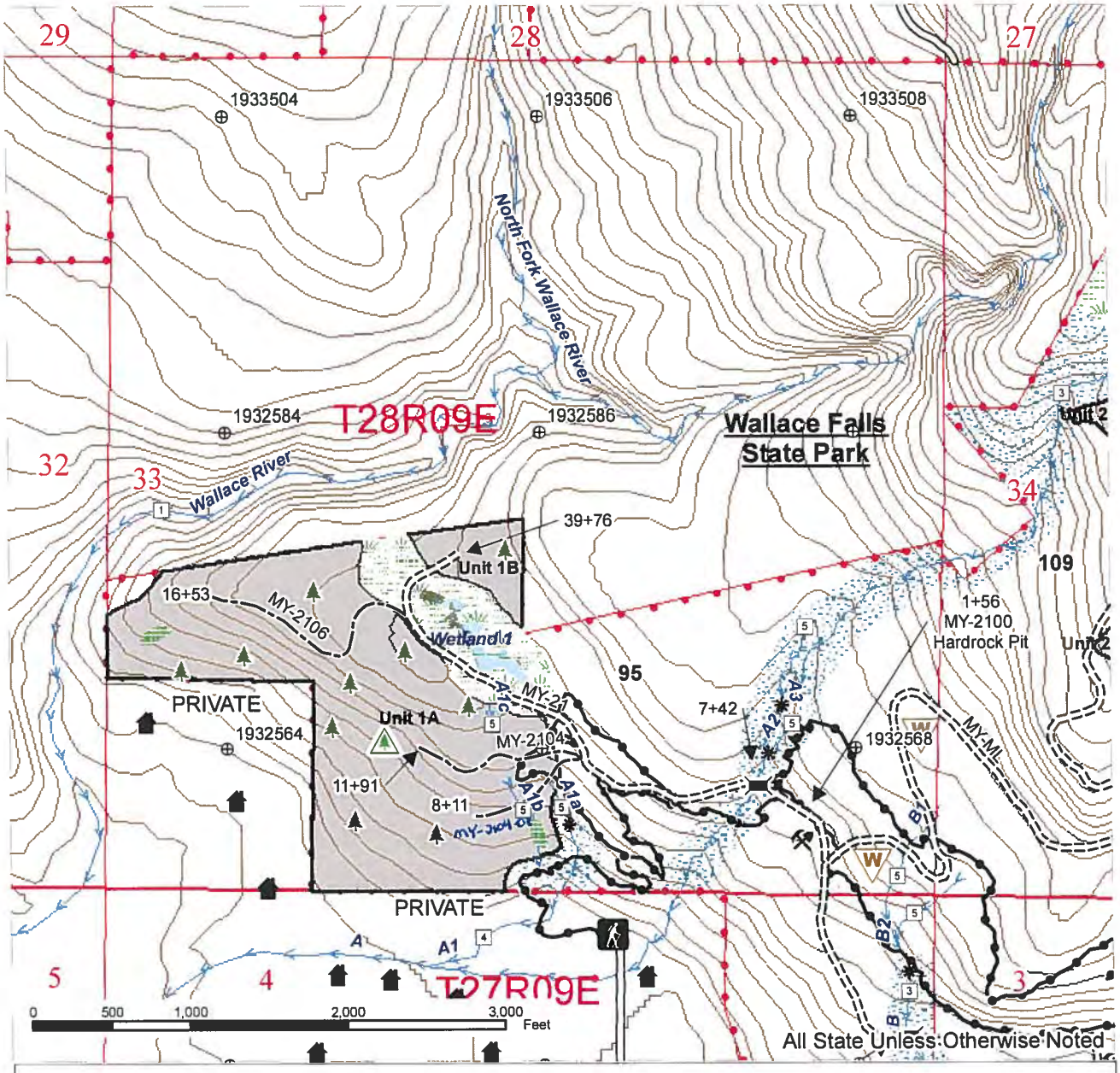
* Remove all ditch relief culverts. The resulting slopes will be 1:1 or flatter. Place and compact the removed fill material in a location that will not erode into any typed waters or wetlands.
* Remove all culverts in natural drainages. The resulting slopes will be 1 ½ :1 or flatter. Strive to match the existing native stream bank gradient. The natural streambed width will be re-established. Place and compact the removed fill material in a location that will not erode into any typed waters or wetlands.
* Transport all removed culverts off site.
* Construct non-drivable waterbars at natural drainage points and at a spacing that will produce a vertical drop of no more than 20 feet between waterbars and with a maximum horizontal spacing of 400 feet.

* Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
* Key waterbars into the cut-slope to intercept the ditch. Waterbars will be outsloped to provide positive drainage. Outlets will be on stable locations.
* Inslope or outslope the road as appropriate.
* Remove bridges and other structures as applicable.
* Pull back unstable fill that has potential of failing and entering any typed waters or wetlands. Place and compact removed material in a stable location.
* Remove berms except as designed.
* Block the road by constructing an aggressive barrier of dense interlocked large woody debris (logs, stumps, root wads, etc.) so that four wheel highway vehicles cannot pass the point of abandonment. Typical barrier dimensions are 10 feet high by 20 feet deep, spanning the entire road prism from top of cutslope to toe of fillslope. Long term effectiveness is the primary objective. If necessary construct a vehicular turn-around near the point of abandonment.
* Apply grass seed to all exposed soils resulting from the abandonment work.
*May provide a protective cover for seed if revegetation occurs between July 1 and March 31. The protective cover may consist of dispersed straw, jute matting, or clear plastic sheets.

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



- DNR Managed Lands
- Sale Area
- Leave Tree Area
- Riparian Mgt Zone
- Forested Wetland
- Wetland Mgt Zone
- Existing Roads
- New Construction
- Temporary Construction
- Old Grades/Trails
- Streams
- Stream Type
- Stream Type Break
- Bridge
- Leave Tree Area <1/4-acre
- Non-Tradeable Leave Trees
- occupied Structure
- Trailhad
- Rock Pit
- Waste Area

N

Prepared By: twhi490

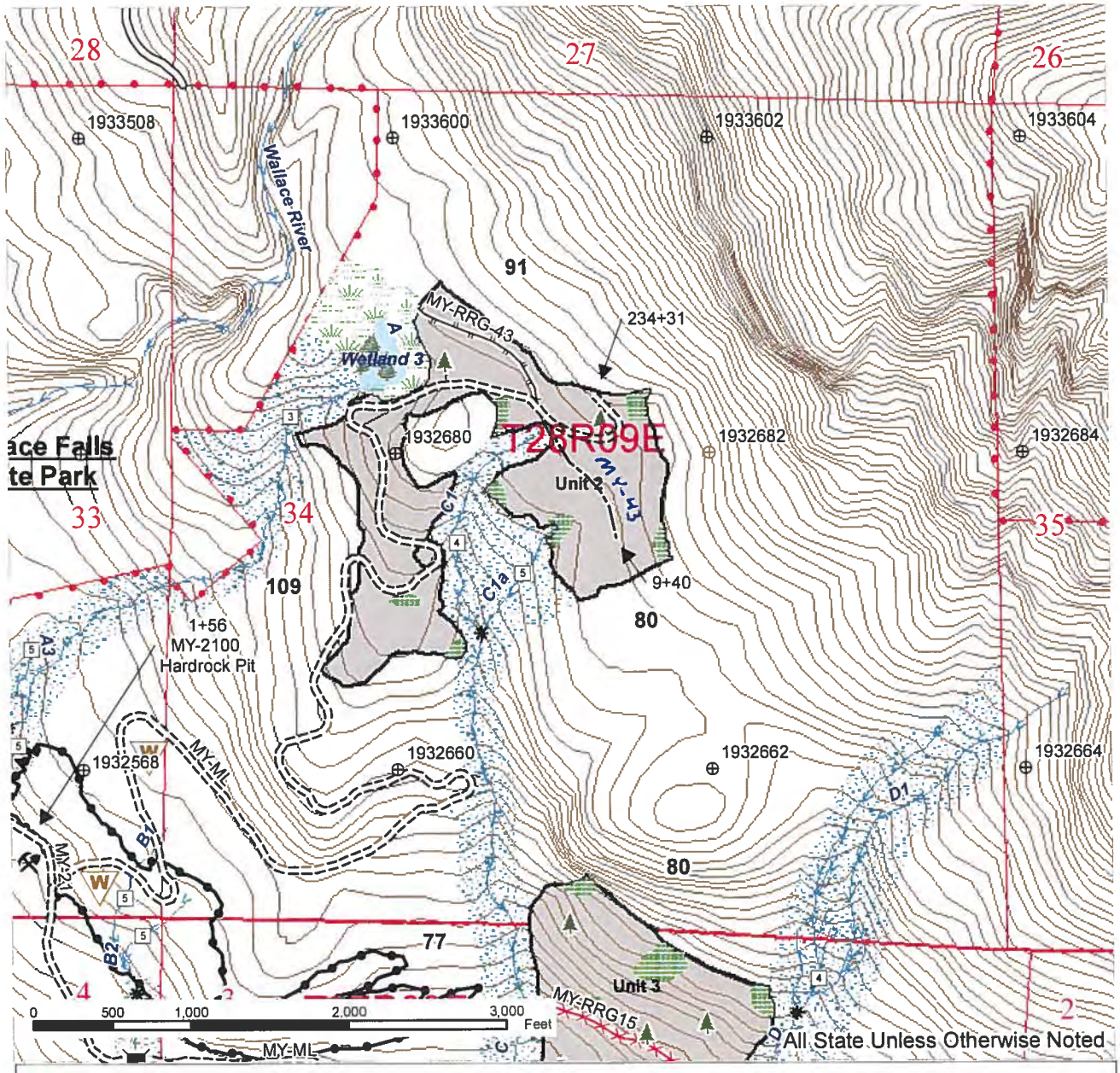
Modification Date: jmoo490 1/27/2020

2817340

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



- DNR Managed Lands
- Sale Area
- Leave Tree Area
- Riparian Mgt Zone
- Forested Wetland
- Wetland Mgt Zone
- Existing Roads
- New Construction
- Temporary Construction
- Orphaned Grade
- Old Grades/Trails
- Designated Skid Trail
- Streams
- Stream Type
- Stream Type Break
- Bridge
- Leave Tree Area <1/4-acre
- Rock Pit
- Waste Area

N

Prepared By: twhi490

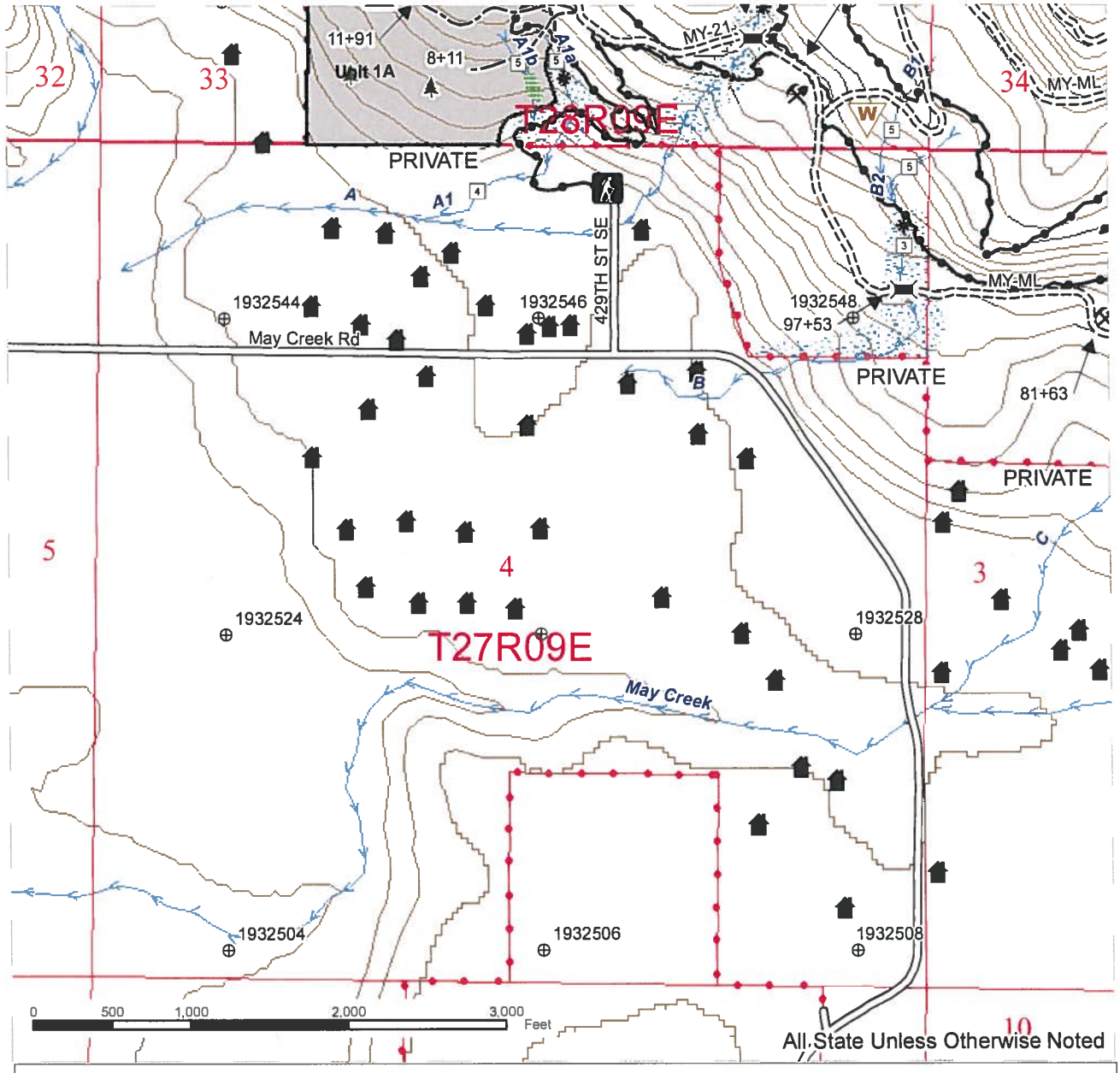
Modification Date: jmoo490 1/27/2020

2817340

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



- DNR Managed Lands
- Sale Area
- Leave Tree Area
- Riparian Mgt Zone
- Existing Roads
- New Construction
- Temporary Construction
- Old Grades/Trails
- Streams
- Stream Type
- Stream Type Break
- Bridge
- Leave Tree Area <1/4-acre
- Non-Tradeable Leave Trees
- occupied Structure
- Trailhad
- Rock Pit
- Waste Area

N

Prepared By: twhi490

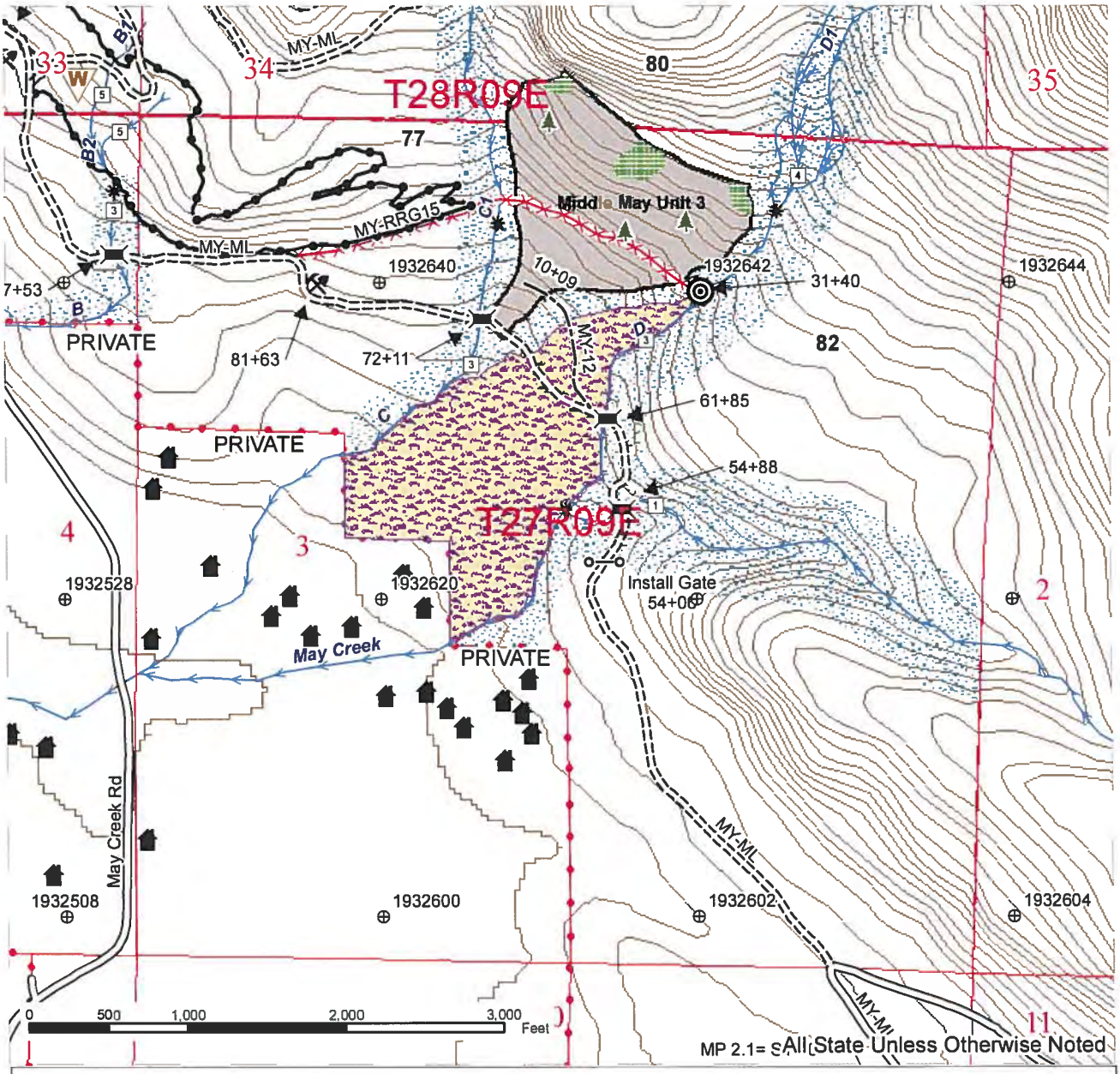
Modification Date: jmoo490 1/27/2020

2817340

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



- DNR Managed Lands
- Sale Area
- Channel Migration Zone
- Leave Tree Area
- Riparian Mgt Zone
- Existing Roads
- New Construction
- Temporary Construction
- Orphaned Grade to be abandoned
- Old Grades/Trails
- Streams
- Stream Type
- Stream Type Break
- Bridge
- Leave Tree Area <1/4-acre
- Gate Installation
- occupied Structure
- Stream Bank Restoration
- Rock Pit
- Waste Area

N

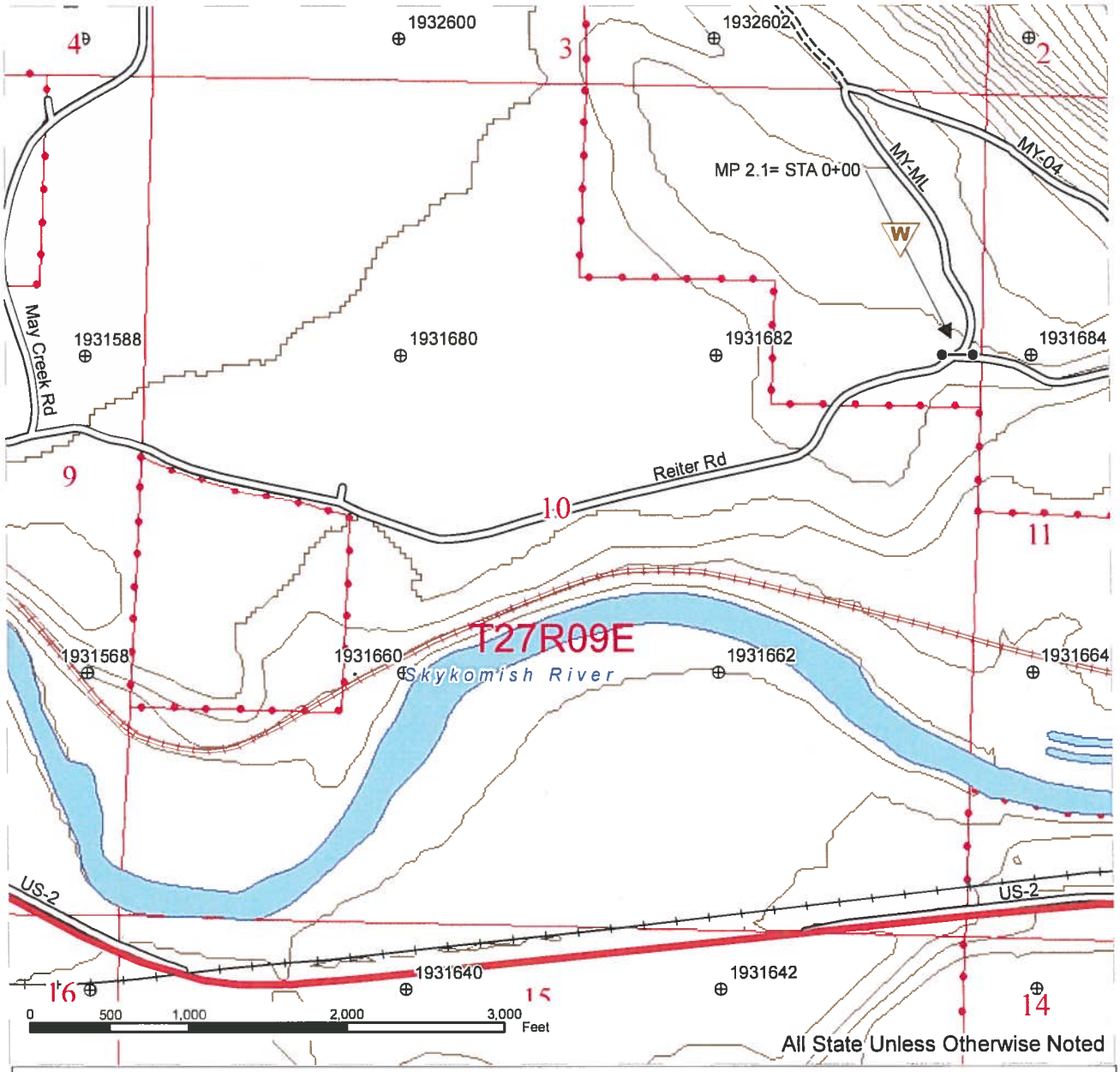
Prepared By: twhi490

Modification Date: jmoo490 3/2/2020

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



DNR Managed Lands
Existing Roads
New Construction
Stream Type
Stream Type Break
Gate (<<Lock Type>>)
occupied Structure
Waste Area

N

Prepared By: twhi490

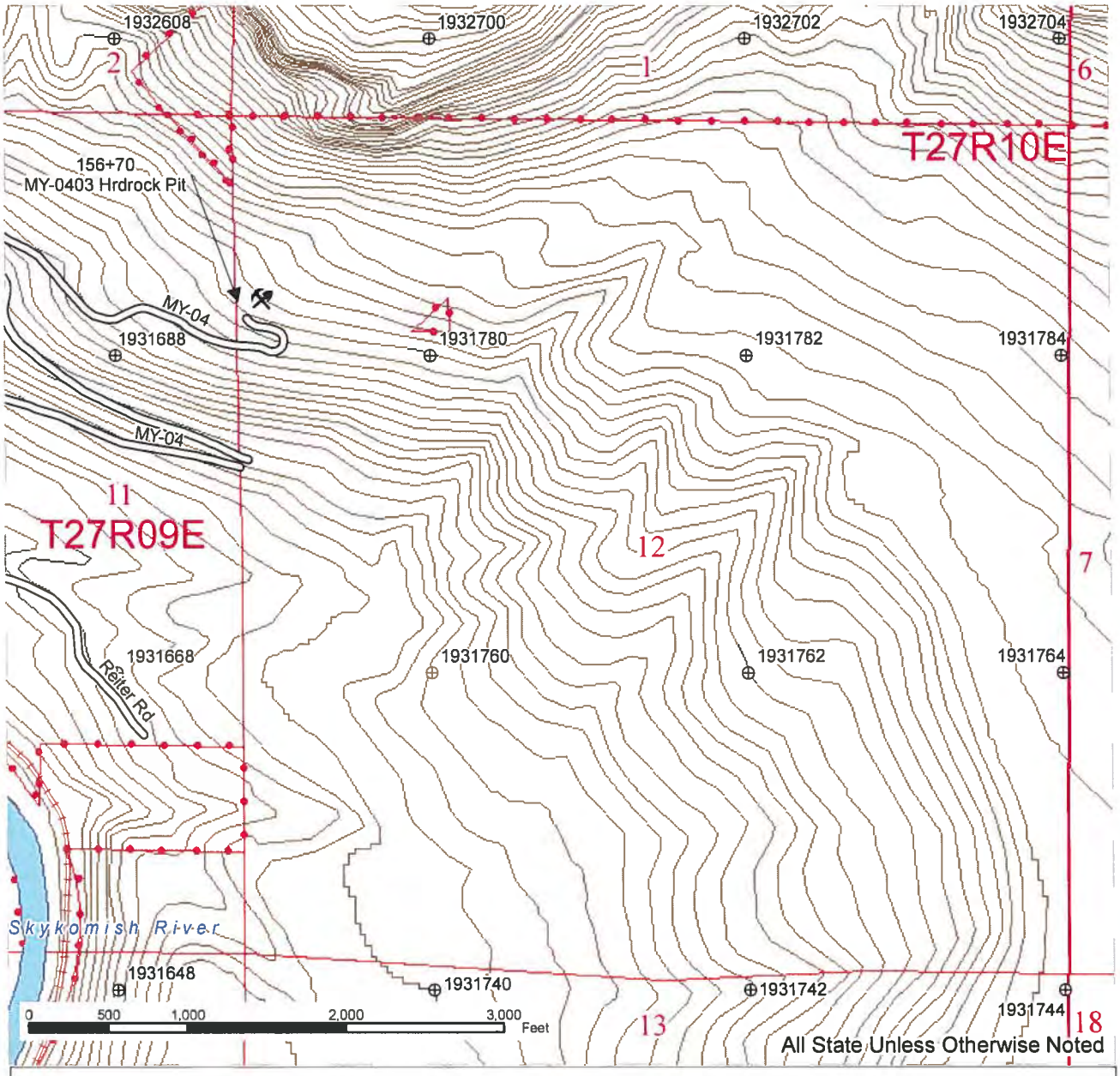
Modification Date: jmoo490 1/27/2020

2817340

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



DNR Managed Lands
Existing Roads
Rock Pit
Stream Type
Stream Type Break

N

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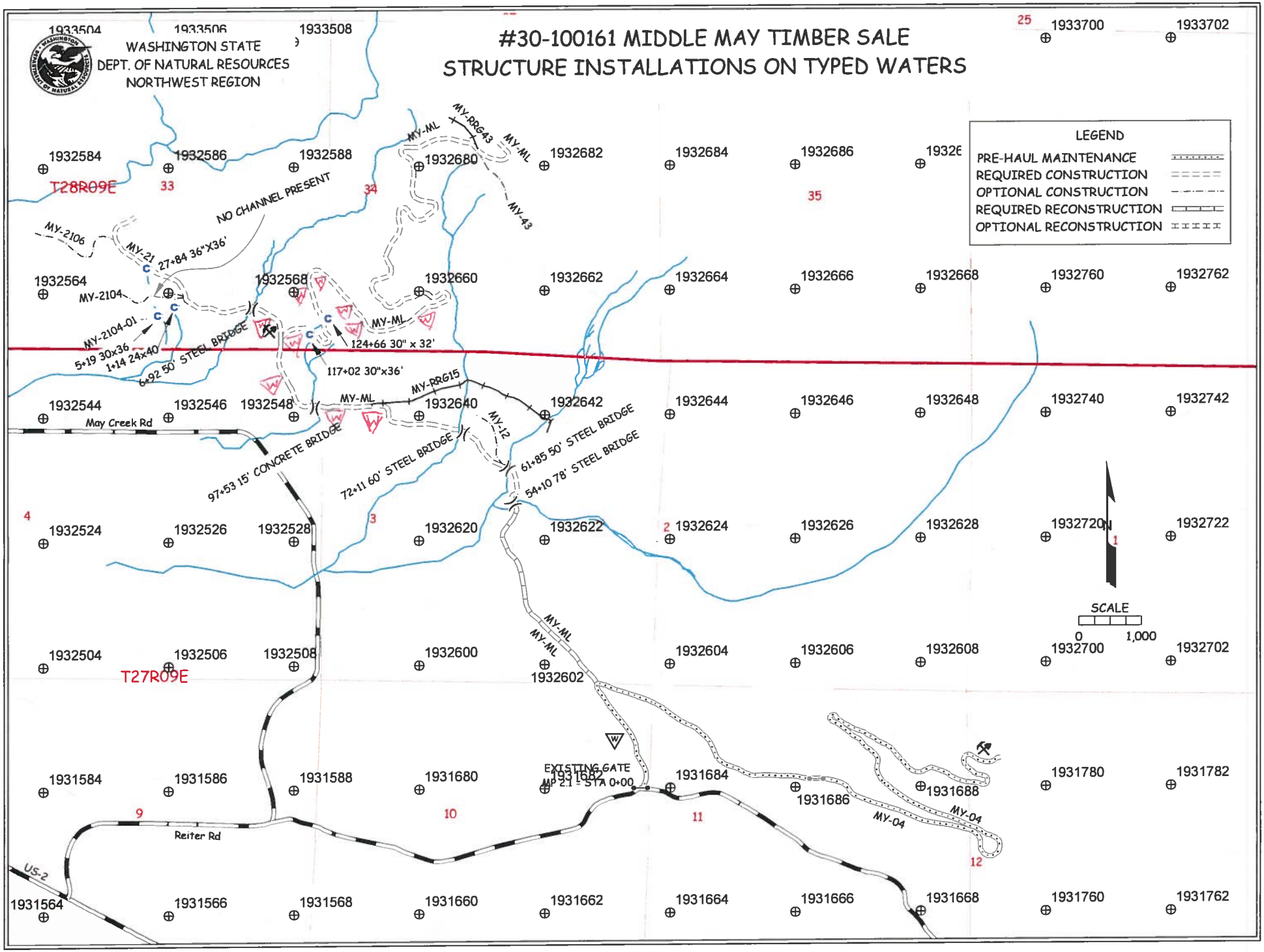
Prepared By: twhi490

Modification Date: jmoo490 1/27/2020


#30-100161 MIDDLE MAY TIMBER SALE
STRUCTURE INSTALLATIONS ON TYPED WATERS
WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION
LEGEND
PRE-HAUL MAINTENANCE
REQUIRED CONSTRUCTION
OPTIONAL CONSTRUCTION
REQUIRED RECONSTRUCTION
OPTIONAL RECONSTRUCTION
T28R09E
T27R09E
NO CHANNEL PRESENT
MY-2106
MY-21 27+84 36"X36'
MY-2104
MY-2104-01
5+19 30x36
1+14 24x40
6+92 50' STEEL BRIDGE
MY-ML
124+66 30" x 32'
117+02 30"x36'
MY-RRG43
MY-43
MY-RRG15
May Creek Rd
97+53 15' CONCRETE BRIDGE
72+11 60' STEEL BRIDGE
MY-12
61+85 50' STEEL BRIDGE
54+10 78' STEEL BRIDGE
EXISTING GATE
MP 2.1 = STA 0+00
Reiter Rd
US-2
MY-04
SCALE
0
1,000
1933504
1933506
1933508
1933700
1933702
1932584
1932586
1932588
1932680
1932682
1932684
1932686
1932564
1932568
1932660
1932662
1932664
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1932762
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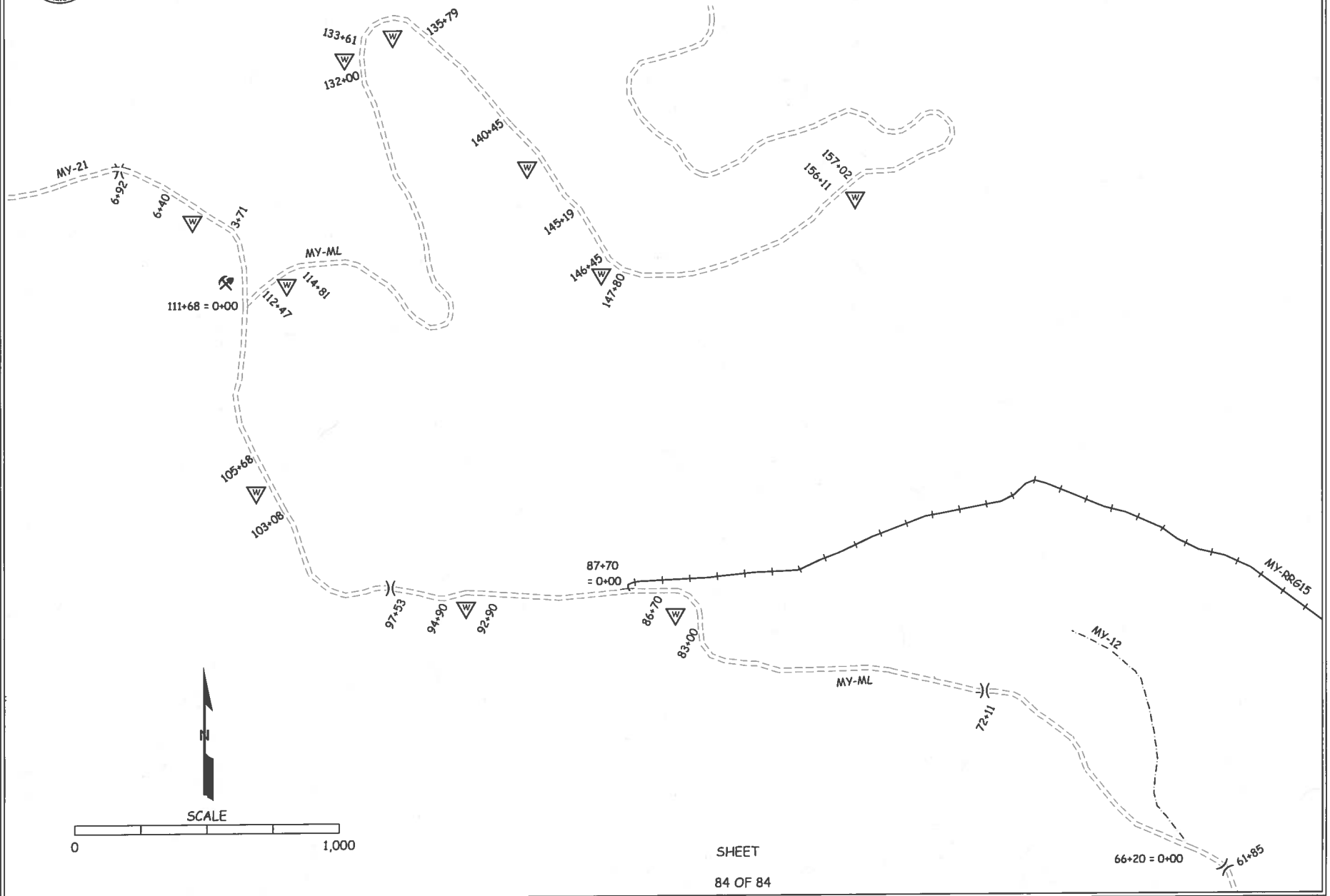
WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

MIDDLE MAY TIMBER SALE
DESIGNATED WASTE AREAS



SHEET

84 OF 84

2817340

WASHINGTON STATE DEPT OF
NATURAL RESOURCES

Forest Practices

Informal Conference Note

ICN No.	Legal Subdivision	Section	TWP	RGE E/W	Application / Notification #	Class
135621		33, 34	28	9E		

Landowner	Timber Owner	Operator
Department of Natural Resources – Tyson Whiteid	Same as landowner	
Mailing Address 919 N. Township St.	Mailing Address	Mailing Address
City, State /Province), Zip /Postal Code) Sedro-Woolley WA 98284	City, State /Province), Zip /Postal Code	City, State /Province), Zip /Postal Code)

Meeting Location	Telephone Conference ☐	Date	Time	Region
On site		10/25/2019	0900	NW

Subjects Discussed:

Landowner representatives requested a pre-application review of the proposed "Middle May" timber sale. The majority of the planned harvest is part of the previously approved but not harvested "Singletary" timber sale. This preapplication site visit is to review:

1. **The planned stream crossings, some of which had been modified from the original designs. The crossing locations remain the same as the original proposal.**
2. **Proposed temporary spur crossing of an alluvial fan**
3. **Review the delineation of avulsion potential areas identified by the applicant from the harvest unit.**
4. **Restoring pirated water back into original channel. The pirating is the result of an old orphaned road crossing that was not properly abandoned. Applicant proposed to reestablish the stream bank and berm inferred to have existed prior to being removed during the construction of the orphaned road in order to keep the water from running down the old orphaned grade during high water periods.**

Decisions Made:

The decisions for the items listed above are as follows:

1. **The crossing design changes from the original proposal are acceptable. Crossing 3 is changed from a 55' steel bridge to a 65' steel bridge. Crossing 4 has been redesigned from a 40' log stringer bridge to a permanent 50' steel bridge.**
2. **A pre-abandonment meeting for the temporary spur will be held with operator, CA, and forest practice forester prior to abandonment to ensure abandonment requirements are clear. Applicant will include this requirement in the FPA.**
3. **The group was not able to review the upper avulsion potential sites and will have to schedule another site visit at a later date to do so. The lower avulsion potential site was reviewed and appeared to be correctly delineated.**
4. **A more specific design will be submitted by the applicant with the FPA for the restoring the original natural bank of the stream.**

I will send out another preapplication site visit for the avulsion potential sites that were not reviewed during this site visit.

PRINT Participants' Names	***SIGNATURES** of Participants	Representing	Copies Mailed
Tyson whiteid		landowner	☐
John Moon		landowner	☐
Amy Halgren		landowner	☐
Jennifer Parker		landowner	☐
Josh Hardesty		forest practices	☐
			☐

Position No.	Signature & Title of DNR Representative	Date	Work Phone
2925	Steven Huang Forest Practice Forester for Steven Huang	10/31/2019	(360)770-9806

*** (Participant signature means Note is correct for subjects discussed and decisions made at the meeting.)**

Did not attend -- mail copies to: WFPARM, FPDM, FPCOORD, SKY30

☐ Timber Owner ☒ Landowner ☒ Others: SNOCO, ECY, DFW, DOR, TULALIP

E-MAILED 11-1-19

QQ38
Rev. 11/04

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WASHINGTON STATE DEPT OF
NATURAL RESOURCES

Forest Practices
Informal Conference Note

ICN No.	Legal Subdivision	Section	TWP	RGE E/W	Application / Notification #	Class
135622		33, 34	28	9E		

Landowner	**Timber Owner**	**Operator**
Department of Natural Resources – Tyson Whiteid	Same as landowner	
Mailing Address 919 N. Township St.	Mailing Address	Mailing Address
City, State /Province), Zip /Postal Code) Sedro-Woolley WA 98284	City, State /Province), Zip /Postal Code	City, State /Province), Zip /Postal Code)

Meeting Location	Telephone Conference ☐	Date	Time	Region
On site		11/21/2019	0900	NW

Subjects Discussed:

Follow up site visit to review the proposed "Middle May" timber sale.

1. **Complete the review of the delineation of avulsion potential areas of the alluvial fan identified by the applicant from the harvest unit that was not reviewed from the previous site visit.**
2. **Review of potential Inner gorge along the Wallace River in unit 1.**

Decisions Made:

The decision for the items listed above are as follows:

1. **The avulsion potential site was reviewed and appeared to be correctly delineated.**
2. **The unit boundary is correctly bounded at that location.**

Also, A follow up to ICN 135621. I did not include that the proposed harvest would be classed as a class IVSP FPA because crossing #4 or D was determined to be an inner gorge crossing. And the number for the bridge is changed to crossing #5. In addition, the proposed culvert crossing reviewed in the previous site visit has been redesigned to be a bridge crossing and will be designated as bridge crossing #4.

PRINT Participants' Names	***SIGNATURES** of Participants	Representing	Copies Mailed
Tyson Whiteid		landowner	☐
Jennifer Parker		landowner	☐
Derek Marks		Tulalip Tribes	☐
Neil Shea		Tulalip Tribes	☐
Josh Hardesty		forest practice	☐
			☐

Position No.	Signature & Title of DNR Representative	Date	Work Phone
2925	Steven Huang, Forest Practice Forester — L. Wigand for Steven Huang	12/26/2019	(360)770-9806

*** (Participant signature means Note is correct for subjects discussed and decisions made at the meeting.)**

Did not attend -- mail copies to: WFPARM, FPDM, FPCOORD, SKY30

☐ Timber Owner ☒ Landowner ☒ Others: SNOCO, ECY, DW, DOR, TULALIP

E-MAILED 12-26-19

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Appendix E. CMZ Assessment Form

Section 3, Township 27, Range 09E

Complete and attach this informational form to your FPA/N if you answered 'Yes' to FPA Question 11j. Refer to Forest Practices Board Manual Section 2—*Standard Methods for Identifying Bankfull Channel Features and Channel Migration Zones* for guidance on evaluating Channel Migration Zones (forms within Forest Practices Board Manual 2 are optional).

Applicant Office Review:

1. Screening tools used: ■ GIS ■ Aerial Photo Years: 1942,57,69,74,75, and 78,83 ■ LiDAR ☐ USGS Topographic Map
   ■ Other (describe): 1:100,000-scale geologic map

2. Are you aware of channel movement or did you observe obvious channel movement between aerial photograph years?
   ☐ No, continue to question 3 ■ Yes, continue to question 5

3. Evaluate valley confinement using USGS topographic map(s) or aerial photographs.
   ☐ Valley floor is significantly wider than the channel. Channel migration may be occurring.
   ☐ Valley floor is very narrow, obviously less than twice as wide as the channel. If you can clearly see this circumstance on the aerial photographs, it is unlikely that channel migration is occurring.

4. Did you observe any of the following on the aerial photographs?
   ☐ Side Channels ☐ Multiple Channels (Braiding)
   ☐ Large Gravel Bars ☐ Wood Jams
   ☐ Eroding Banks ☐ High Sinuosity or Sharp Channel Bends
   ☐ New Channels Occurring Between Photo Years (Avulsions)

Field Review:

Date of field review: 09/04/2019

Person(s) that conducted field review:

Tyson Whiteid	State Lands Forester
Name	Title/position
Jenn Parker	State Lands LEG/QE
Name	Title/position

5. If CMZ is present check the component(s) present in your CMZ delineation.
   ■ Avulsion hazard area ☐ Erosion hazard area (attach erosion rate calculations)

6. What was the distance of channel walked? What was the length of CMZ boundary delineated?
   Approximately 1200 feet (Both)

Briefly describe how you determined a CMZ exists, how you delineated the outer edge of the CMZ, and how you marked the outer edge of the CMZ on the ground (flagging color, paint, etc.):

This CMZ exists on an alluvial fan. The northwestern margin was delineated starting at the apex and following the lowest topography, downhill, for the length of the proposed harvest unit. It was marked in pink flagging. The harvest boundary is marked with white "timber sale boundary" tags approximately 165 feet away from the marked lateral margin. Except road right of way on the MY-ML and MY-12, no timber shall be removed from the body of the alluvial fan or its 165 foot buffer. Please refer to Informal Conference Notes "135621"and "135622" for results of the Forest Practices field review.

Appendix D. Slope Stability Informational Form

Complete and attach this form to your FPA/N if you indicated you are working in or around potential unstable slopes or landforms. Instructions for this appendix is located in in the Forest Practices Application/Notification Instructions document. Refer to WAC 222-16-050(1)(d) and Forest Practices Board Manual Section 16 - *Guidelines for Evaluating Potentially Unstable Slopes* for definitions and descriptions of potentially unstable slopes or landforms.

1. a. What preliminary screening tools were used to identify unstable slopes or landform features in and/or around your proposal?

☒ Aerial Photo ☒ LiDAR ☒ Landslide Inventory ☒ GIS ☒ Field Review ☒ Other, describe:

1:100,000-scale geologic map

b. Did any of the features identified during the preliminary screening (1.a.) not exist when you performed a field review? ☐ No, go to Question 2.a. ☒ Yes, describe:

The State Lands geologist interpreted divits seen in LiDAR southwest of Unit 1A to be manmade excavations. A potential shallow landslide in Unit 1A identified using LiDAR was interpreted to be a rail grade trestle remnant. Proposed bridge sites were visited by the State Lands geologist and Forest Practices and were determined not to be inner gorges with the exception of the bridge across Stream "A" on the MY-21 road.

2. a. Are you conducting forest practices activities **in or over** potentially unstable slopes or landforms?

☒ Inner Gorge ☐ Groundwater recharge areas for glacial deep-seated landslides
☐ Bedrock Hollow ☐ Convergent Headwall ☐ Outer edges of meander bends
☐ Toe of deep-seated landslide with slopes ≥ 65%
☐ Category E - see instructions and describe below *(i.e.: Active deep-seated landslides and others)*
☐ Other, describe:

A one-sided inner gorge in stream "A" will be crossed with a bridge on the MY-21 road. Refer to the Engineering Geologic Risk Assessment for more information.

b. What activities may occur **in or over** potentially unstable slopes or landforms? Check all that apply:

☐ Timber harvest ☒ Road construction ☐ Suspending cables ☐ Yarding ☐ Tailholds

3. a. Are you conducting forest practices activities **around** potentially unstable slopes or landforms?

☒ Inner Gorge ☐ Groundwater recharge areas for glacial deep-seated landslides
☐ Bedrock Hollow ☐ Convergent Headwall ☐ Outer edges of meander bends
☐ Toe of deep-seated landslide with slopes ≥ 65%
☐ Category E - see instructions and describe below *(i.e.: Active deep-seated landslides and others)*
☒ Other, describe:

A sliver fill failure associated with an orphaned grade was discovered northwest of Unit 3. It has been excluded from the proposal area.

b. What activities may occur **around** potentially unstable slopes or landforms? Check all that apply:

☒ Timber harvest ☒ Road construction ☒ Suspending cables ☒ Yarding ☒ Tailholds

2817340

4. **a.** Were any features identified in Question 3.a. excluded from your forest practices activity?

☐ No, go to Question 5. ☒ Yes, continue to Question 4.b.

b. Describe the field indicators you used to exclude potentially unstable slopes or landforms from your forest practices activity *(i.e.: flagging was placed a crown width away from the break in slope of the inner gorge.)*:

Except the bridge on the MY-21 road, inner gorges and a sliver fill failure were excluded from the proposal area by white "timber sale boundary" tags and/or last take tree marked with two bands of red paint and a yellow "T."

5. Are there areas of public use located in or around the area of your proposed forest practices activity?

☐ No, go to Question 6 ☒ Yes, check all that apply and show locations on the map in Question 7.

☒ Public Road(s) ☒ Utilities ☒ Designated Recreation Area(s) ☒ Occupied Structure(s)

☒ Other, describe:

Wallace Falls State Park is adjacent to the proposal area.

6. Complete the table below with date(s) and person(s) that conducted field review(s):

Date	Name	Title/Position
09/04/2019	T. Whiteid, J. Parker, A. Halgren	State Lands: Forester, LEG/QE, Forest Engineer
09/24/2019	T. Whiteid, J. Parker	State Lands: Forester, LEG/QE
10/25/2019	[redacted]	[redacted]
11/20/2019	All of the above+D. Marks, N. Shea**	Tulalip Tribes: Forests and Fish Watershed Scientist
10/25/2019	*refer to ICN "NW-ICN-19-135621"	
11/21/2019	**refer to ICN "NW-ICN-19-135622"	

updated 2/27/2020 T. Kiepl

7. Attach a map that shows the following:

- Show all areas reviewed.
- Show locations of unstable slopes and landforms that were identified as described in Question 2.a. and 3.a. above.
- Show locations where areas of public use exist as described in Question 5 above.

This map is intended to be developed by the field practitioner. This can be a forest practices activity map, harvest map, or GIS map – See instructions for example map.

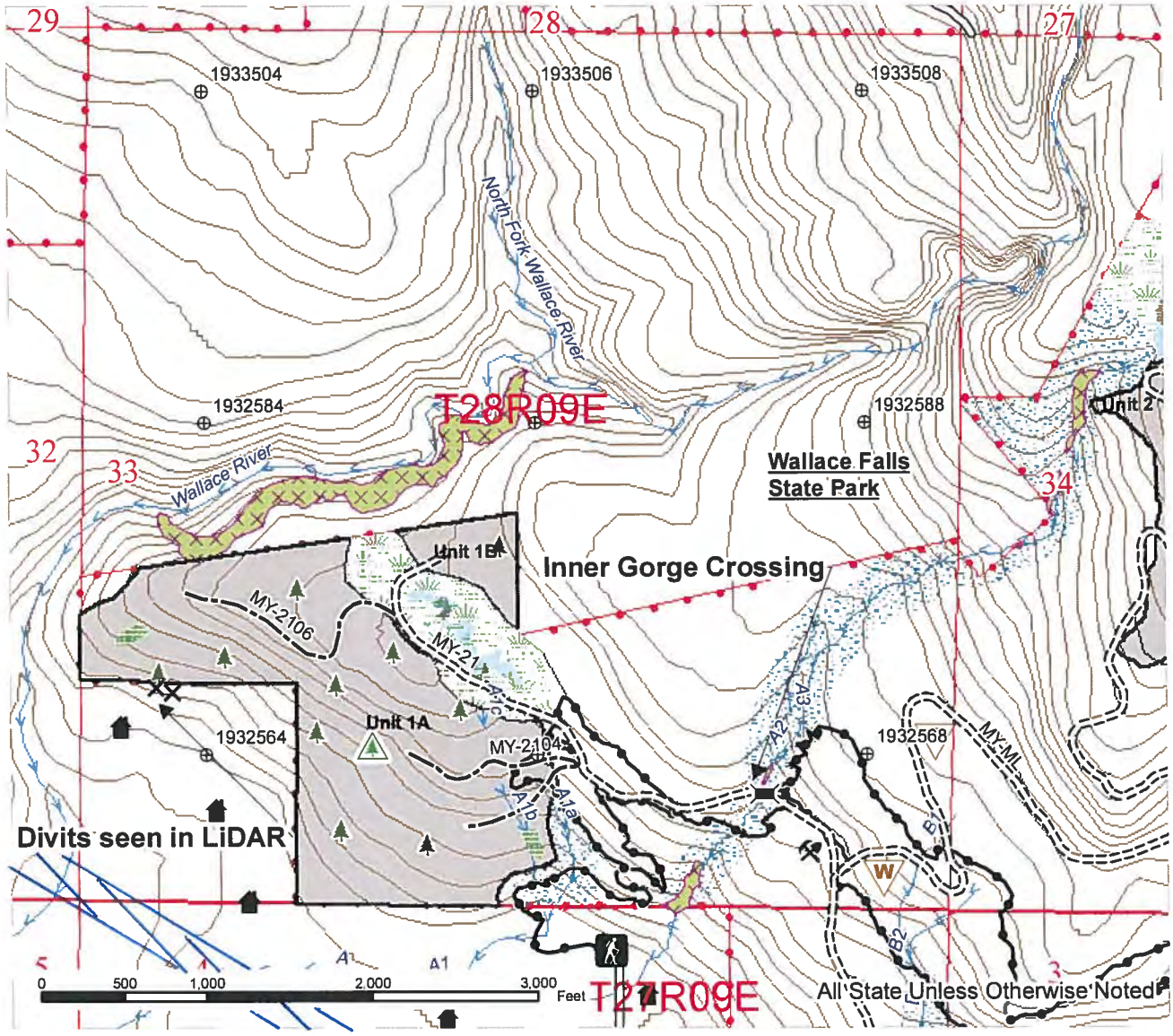
RECEIVED NW REGION
FEB 28 2020

2817340

SLOPE STABILITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



- Sale Area
- Leave Tree Area
- Riparian Mgt Zone
- Forested Wetland
- Wetland Mgt Zone
- Inner Gorge
- BPA Corridors
- Existing Roads
- New Construction
- Temporary Construction
- Old Grades/Trails
- Streams
- Stream Type
- Stream Type Break
- Bridge
- Leave Tree Area <1/4-acre
- Non-Tradeable Leave Trees
- Structure
- Trailhead
- Rock Pit
- Waste Area

N

Prepared By: twhi490

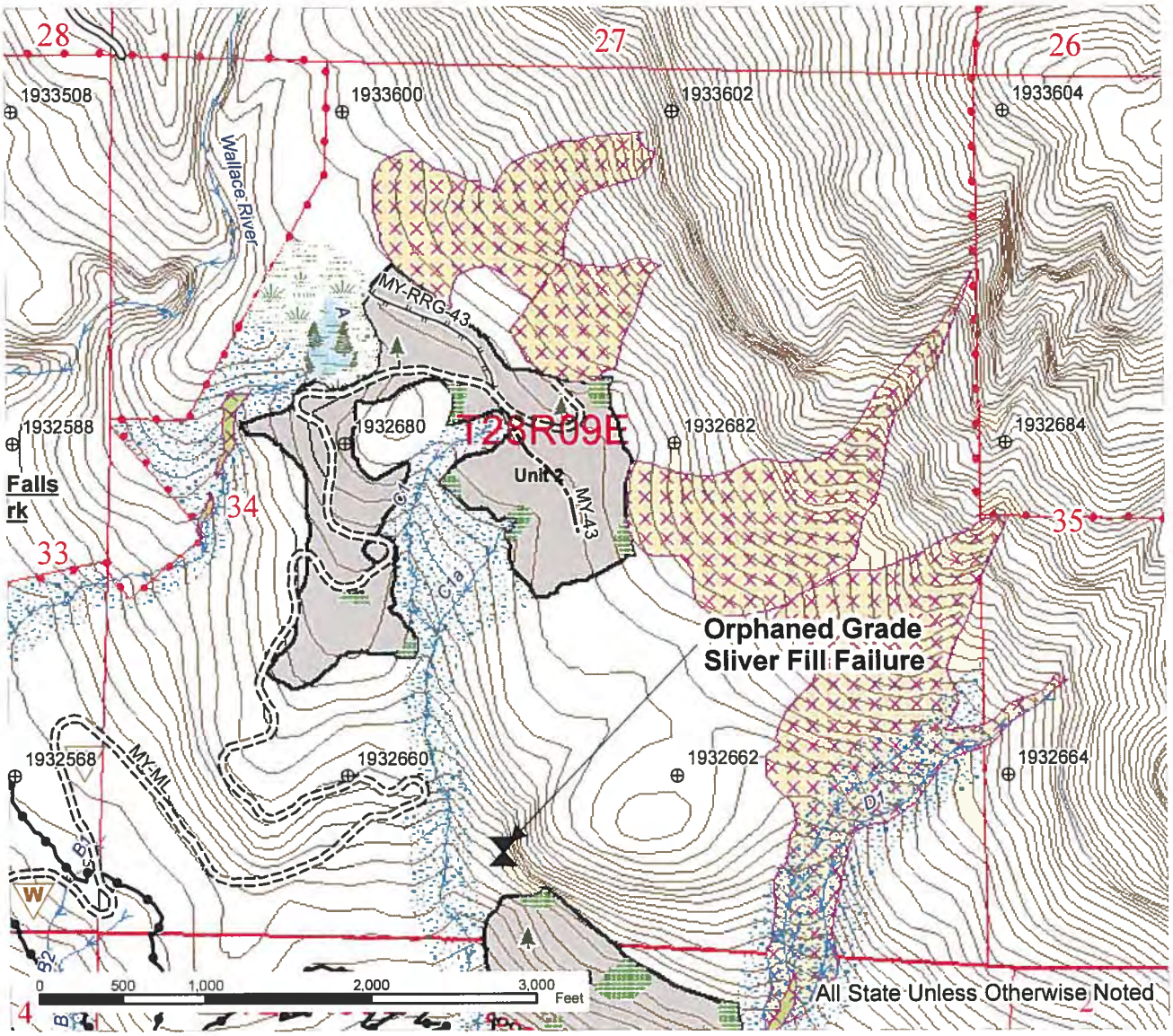
Modification Date: jmoo490 1/27/2020

2817340

SLOPE STABILITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



- Sale Area
- Leave Tree Area
- Riparian Mgt Zone
- Forested Wetland
- Wetland Mgt Zone
- Inner Gorge
- Alluvial Fans
- Existing Roads
- New Construction
- Temporary Construction
- Required Abandonment
- Old Grades/Trails
- Designated Skid Trail
- Streams
- Stream Type
- Stream Type Break
- Leave Tree Area <1/4-acre
- Potentially Unstable Slopes
- Waste Area

N

Prepared By: twhi490

Modification Date: jmoo490 1/27/2020

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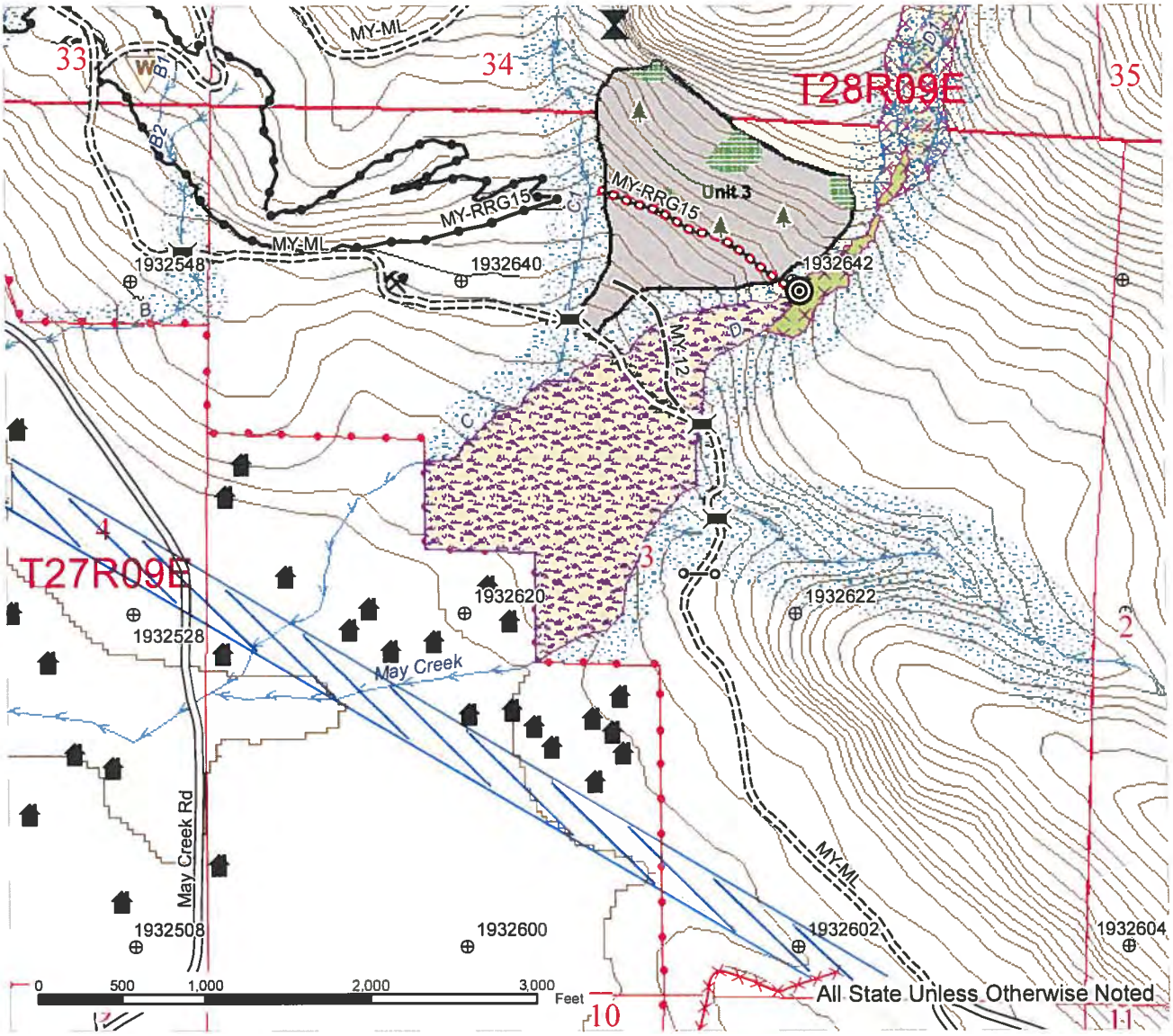
SLOPE STABILITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R9E



- Sale Area
- Channel Migration Zone
- Leave Tree Area
- Riparian Mgt Zone
- Inner Gorge
- Alluvial Fans
- BPA Corridors
- Existing Roads
- New Construction
- Temporary Construction
- Required Abandonment
- Old Grades/Trails
- Existing Abandon/Orphan Road
- Streams
- Stream Type
- Stream Type Break
- Bridge
- Gate Installation
- Leave Tree Area <1/4-acre
- Structure
- Stream Bank Restoration
- Potentially Unstable Slopes
- Rock Pit
- Waste Area

N

Prepared By: twhi490

Modification Date: jmoo490 1/27/2020

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Forest Practices Application/Notification Addendum
DNR Proprietary HCP, WAC Replacement Summary for Aquatic Resources, 2008
Five West-side Planning Units, Excluding the OESF

Please refer to the DNR Proprietary HCP Substitution Agreement for Aquatic Resources, 2008. Please check all HCP prescriptions and/or activities, which are relevant to this proposal and describe the management prescriptions and final stand composition at the end of this checklist.

NOTE: **When assessing hydrologic maturity for each sub-basin inside the rain-on-snow zone, DNR staff will use the most updated data layer delineating Watershed Administrative Units as designated by Forest Practices.**

☐ Assessing Hydrologic Maturity in the Rain-On-Snow (ROS) Zone (Refer to item A in the Agreement Memo). If the activity lies within the ROS zone and subbasin will be managed for ROS, fill out the following table. If within ROS zone, but subbasin will not be managed for ROS, describe why in additional information section below.

1. SUB-BASIN NAME	2. TOTAL ROS ACRES (DNR) WITHIN SUB-BASIN	3. HYDRO MATURE TARGET ACRES (2/3 of Column 2)	4. CURRENT DNR SUB-BASIN ACRES IN HYDRO MATURE FOREST IN ROS	5. ACRES OF HYDRO MATURE FOREST TO BE REMOVED	6. SUPRLUS (+) OR DEFICIT (-) ACRES AFTER ACTIVITY

☒ Wetlands Protection, road construction within wetlands or wetland buffers, requires mitigation. (Refer to item B in the Agreement Memo). If this activity will include road construction within a wetland or WMZ, describe the type of wetland, potential loss of wetland function and how and where the loss of function will be mitigated.

☐ Harvesting within Forested Wetlands. (Refer to items C & E in the Agreement Memo). Describe the remaining stand characteristics within the wetland and map any forested wetlands greater than 3 acres.

☒ Wetland Management Zones. (Refer to item D in the Agreement Memo). Describe the site index and WMZ width. If harvesting within the WMZ, describe the remaining stand characteristics within the WMZ.

☒ Riparian Management Zones for Type 1, 2 and 3 Waters (Refer to item F and Appendix 1 in the Agreement Memo). Describe the site index, RMZ width and if a wind buffer was applied. Describe if the RMZ begins from the outer edge of a CMZ or 100-year floodplain and how they were typed.

☒ Riparian Management Zones for Type 4 and 5 Waters (Refer to item G and Appendix 1 in the Agreement Memo). Describe any special protection for Type 5 waters.

☐ Harvesting or Salvaging within Type 1, 2, 3 and 4 Riparian Management Zones. (Refer to item F-J and Appendix 3 in the Agreement Memo). If harvesting, describe the general

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HCP Riparian Forest Restoration Strategy management scenario under which the proposal's riparian stand will be managed. Describe stand treatment including removals, down wood and snag recruitment and type of activities. Describe post-harvest stand; how it meets the management parameters of the general management scenario, what species composition and diameter classes will remain, trees per acre, basal area, relative density. If salvaging, describe how you will be meeting the RDFC conditions, what you will retain and removals and other salvage/restoration conditions described within the Ecosystem Services Section approved site specific restoration plan (and/or attach plan).

Please provide any requested additional information below. If varying from standard HCP guidance, attach concurrence/variance approval from Land Management Division and/or Federal Services and discuss below (e.g. research).

Road construction will pass through two WMZs . Mitigation will consist of acre-for-acre replacement of the WMZ area impacted by new road, with mitigation acres placed on slopes above these wetlands that are a likely water source for the wetlands.

Stream C1 has had an additional survey. Please see attached notes and report.

See attached riparian table for further information per stream segment.

Forest Practices Application/Notification Addendum
DNR Proprietary HCP, WAC Replacement Summary for Aquatic Resources, 2008
Five West-side Planning Units, Excluding the OESF

Stream Segment Identifier or **Wetland Identifier**	**Water Type** or Wetland **"forested or open water"**	Site Class FP Base Map / Other source	Stream Width (feet) or Wetland Size	Is there a CMZ? **Yes or No**	**Thinning RMZ/WMZ? Yes or No**	**Total Width of RMZ/WMZ** FP width / Actual width (feet)	**Wind Buffer? Yes, No (for T-3, 2, 1) or N/A**
Wallace River	1	III	>10 feet	No	No	140/200	No
May Creek	1	III	>10 feet	Yes	No	140/200	No
A	3	III	>2 feet	No	No	140/165	No
B	3	III	>2 feet	No	No	140/165	No
C	3	III	>2 feet	No	No	140/165	No
D	3	III	>2 feet	Yes	No	140/165	No
A1	4	III	>2 feet	No	No	50/100	No
C1	4	III	>2 feet	No	No	50/100	No
D1	4	III	>2 feet	Yes	No	50/100	No
A1a	5	III	<2 feet	No	No	0/30' equipment	No
A1b	5	III	<2 feet	No	No	0/30' equipment	No
A1c	5	III	<2 feet	No	No	0/30' equipment	No
A2	5	III	<2 feet	No	No	0/30' equipment	No
A3	5	III	<2 feet	No	No	0/30' equipment	No
B1	5	III	<2 feet	No	No	0/30' equipment	No
B2	5	III	<2 feet	No	No	0/30' equipment	No
C1a	5	III	<2 feet	No	No	0/30' equipment	No
Wetland 1	Forested	III	2.0 acres	N/A	No	0/165	No
Wetland 3	Forested	III	2.4 acres	N/A	No	0/165	No

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DNR Trust Forestland HCP Water Typing Key

ADDENDUM TO INSTRUCTIONS FOR COMPLETING THE FOREST PRACTICE APPLICATION

STREAM(S) ID _A, B, C, D_____ DATE ____11/14/2019_____

Within your road construction and harvest area, you need to physically review these streams on the ground to determine if they meet the criteria of Type 3 water. Refer to DNR Trust Forestland HCP Water Typing System to determine Type 1 and 2 waters.

1. Were any fish observed in the stream segment, or are fish known to use this stream segment?
_____Yes. Type 3 stream.
___X___ No. Go to question # 2.

2. Has the stream been surveyed?
_____Yes. Attach the survey data to the Application/Notification.
____ Fish found. Type 3 stream.
____ No fish. Is the average width of the stream segment two feet (2') or wider between the ordinary high
water marks?

_____ Yes. Type 4 stream.
_____ No. Type 5 stream.

_X_ No. Go to question # 3.

3. Is the average width of the stream segment two feet (2') or wider between the ordinary high water marks?
__X__Yes. Go to question # 4.
_____No. Type 5 Stream.

4. Is the gradient of the stream segment 16% or less?
(Example: 16' fall in elevation over 100 feet of stream = 16/100= .16 or 16%).
__X___Yes. Type 3 stream.
___ No. Go to question # 5.

5. Is the average gradient of the stream segment greater than 16% and less than or equal to 20%?
_____Yes. Go to question # 6.
_____No.. Type 4 stream.

6. Is the contributing basin (watershed) size to the stream segment greater than 50 acres?
_____Yes. Type 3 stream.
_____No. . Type 4 stream.

Definitions:

Stream Width: To determine the Ordinary High Water Mark (OHWM) of the stream(s), observe the break between the water influence zone and upland vegetation on the stream bank; this is usually the spring high water mark. Then measure stream width between the OHWMs on either side of the stream at 50 feet intervals along the stream bank for a minimum distance of 500 feet. This determines the average width of the stream. For further information see page M-11 of the board manual.
Stream Gradient: The gradient of a stream is defined as the inclination or rate of fall of a stream bed, expressed as a percentage. The average gradient of a stream is determined by calculating the inclination of individual sub-reaches over a minimum distance of 500 feet along a stream or to a point where distinct gradient changes occur. For further information see page M-14 of the board manual (only use the method for field measurements; do not use the mapping method).

Note: Streams with widths of twenty feet (20') or greater or lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water, may be type 2 waters. 1-14-08

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DNR Trust Forestland HCP Water Typing Key

ADDENDUM TO INSTRUCTIONS FOR COMPLETING THE FOREST PRACTICE APPLICATION

STREAM(S) ID __A1, D1_____ DATE ____11/14/2019_____

Within your road construction and harvest area, you need to physically review these streams on the ground to determine if they meet the criteria of Type 3 water. Refer to DNR Trust Forestland HCP Water Typing System to determine Type 1 and 2 waters.

1. Were any fish observed in the stream segment, or are fish known to use this stream segment?
_____Yes. Type 3 stream.
__X____ No. Go to question # 2.

2. Has the stream been surveyed?
_____Yes. Attach the survey data to the Application/Notification.
____ Fish found. Type 3 stream.
____ No fish. Is the average width of the stream segment two feet (2') or wider between the ordinary high
water marks?

_____ Yes. Type 4 stream.
_____ No. Type 5 stream.

__X__ No. Go to question # 3.

3. Is the average width of the stream segment two feet (2') or wider between the ordinary high water marks?
__X__Yes. Go to question # 4.
_____No. Type 5 Stream.

4. Is the gradient of the stream segment 16% or less?
(Example: 16' fall in elevation over 100 feet of stream = 16/100= .16 or 16%).
_____Yes. Type 3 stream.
__X___ No. Go to question # 5.

5. Is the average gradient of the stream segment greater than 16% and less than or equal to 20%?
_____Yes. Go to question # 6.
__X__No.. Type 4 stream.

6. Is the contributing basin (watershed) size to the stream segment greater than 50 acres?
_____Yes. Type 3 stream.
_____No. . Type 4 stream.

Definitions:

Stream Width: To determine the Ordinary High Water Mark (OHWM) of the stream(s), observe the break between the water influence zone and upland vegetation on the stream bank; this is usually the spring high water mark. Then measure stream width between the OHWMs on either side of the stream at 50 feet intervals along the stream bank for a minimum distance of 500 feet. This determines the average width of the stream. For further information see page M-11 of the board manual.
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Note: Streams with widths of twenty feet (20') or greater or lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water, may be type 2 waters. 1-14-08

DNR Trust Forestland HCP Water Typing Key

ADDENDUM TO INSTRUCTIONS FOR COMPLETING THE FOREST PRACTICE APPLICATION

STREAM(S) ID _A1a, A1b, A1c, A2, A3, B1, B2, C1a_ DATE _11/14/2019_____

Within your road construction and harvest area, you need to physically review these streams on the ground to determine if they meet the criteria of Type 3 water. Refer to DNR Trust Forestland HCP Water Typing System to determine Type 1 and 2 waters.

1. Were any fish observed in the stream segment, or are fish known to use this stream segment?
_____Yes. Type 3 stream.
___X___ No. Go to question # 2.

2. Has the stream been surveyed?
_____Yes. Attach the survey data to the Application/Notification.
____ Fish found. Type 3 stream.
____ No fish. Is the average width of the stream segment two feet (2') or wider between the ordinary high
water marks?

_____ Yes. Type 4 stream.
_____ No. Type 5 stream.
__X__ No. Go to question # 3.

3. Is the average width of the stream segment two feet (2') or wider between the ordinary high water marks?
_____Yes. Go to question # 4.
__X___No. Type 5 Stream.

4. Is the gradient of the stream segment 16% or less?
(Example: 16' fall in elevation over 100 feet of stream = 16/100= .16 or 16%).
_____Yes. Type 3 stream.
_____ No. Go to question # 5.

5. Is the average gradient of the stream segment greater than 16% and less than or equal to 20%?
_____Yes. Go to question # 6.
_____No.. Type 4 stream.

6. Is the contributing basin (watershed) size to the stream segment greater than 50 acres?
_____Yes. Type 3 stream.
_____No. . Type 4 stream.

Definitions:

Stream Width: To determine the Ordinary High Water Mark (OHWM) of the stream(s), observe the break between the water influence zone and upland vegetation on the stream bank; this is usually the spring high water mark. Then measure stream width between the OHWMs on either side of the stream at 50 feet intervals along the stream bank for a minimum distance of 500 feet. This determines the average width of the stream. For further information see page M-11 of the board manual.
Stream Gradient: The gradient of a stream is defined as the inclination or rate of fall of a stream bed, expressed as a percentage. The average gradient of a stream is determined by calculating the inclination of individual sub-reaches over a minimum distance of 500 feet along a stream or to a point where distinct gradient changes occur. For further information see page M-14 of the board manual (only use the method for field measurements; do not use the mapping method).

Note: Streams with widths of twenty feet (20') or greater or lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water, may be type 2 waters. 1-14-08

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DNR Trust Forestland HCP Water Typing Key

ADDENDUM TO INSTRUCTIONS FOR COMPLETING THE FOREST PRACTICE APPLICATION

STREAM(S) ID _____C1_____ DATE _____11/14/2019_____

Within your road construction and harvest area, you need to physically review these streams on the ground to determine if they meet the criteria of Type 3 water. Refer to DNR Trust Forestland HCP Water Typing System to determine Type 1 and 2 waters.

1. Were any fish observed in the stream segment, or are fish known to use this stream segment?
_____Yes. Type 3 stream.
___X___ No. Go to question # 2.

2. Has the stream been surveyed?
__X__Yes. Attach the survey data to the Application/Notification. **See attached survey data**
____ Fish found. Type 3 stream.
_X__ No fish. Is the average width of the stream segment two feet (2') or wider between the ordinary high
water marks?

__X__ Yes. Type 4 stream.
_____ No. Type 5 stream.
_____ No. Go to question # 3.

3. Is the average width of the stream segment two feet (2') or wider between the ordinary high water marks?
_____Yes. Go to question # 4.
_____No. Type 5 Stream.

4. Is the gradient of the stream segment 16% or less?
(Example: 16' fall in elevation over 100 feet of stream = 16/100= .16 or 16%).
_____Yes. Type 3 stream.
_____ No. Go to question # 5.

5. Is the average gradient of the stream segment greater than 16% and less than or equal to 20%?
_____Yes. Go to question # 6.
_____No.. Type 4 stream..

6. Is the contributing basin (watershed) size to the stream segment greater than 50 acres?
_____Yes. Type 3 stream.
_____No. . Type 4 stream.

Definitions:

Stream Width: To determine the Ordinary High Water Mark (OHWM) of the stream(s), observe the break between the water influence zone and upland vegetation on the stream bank; this is usually the spring high water mark. Then measure stream width between the OHWMs on either side of the stream at 50 feet intervals along the stream bank for a minimum distance of 500 feet. This determines the average width of the stream. For further information see page M-11 of the board manual.
Stream Gradient: The gradient of a stream is defined as the inclination or rate of fall of a stream bed, expressed as a percentage. The average gradient of a stream is determined by calculating the inclination of individual sub-reaches over a minimum distance of 500 feet along a stream or to a point where distinct gradient changes occur. For further information see page M-14 of the board manual (only use the method for field measurements; do not use the mapping method).

Note: Streams with widths of twenty feet (20') or greater or lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water, may be type 2 waters. 1-14-08

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These notes pertain to stream "C1" of the Middle May timber sale beginning at unit 2 and flowing to unit 3.
They specifically describe the stretch from Station 0+00 to 12+00 as shown on the following page.

--Mostly sunny preceded by heavy rain on 9/10
--Surveyed 1200 feet of low gradient stream. It was characterized by a shallow channel much narrower than the surrounding flood plain (30+ feet).
--Moderate to high sinuosity within floodplain
--Sand/gravel/cobbles within channel
--Deepest pool observed was 14 inches
--Abundant downed wood
--Steeper gradient above and below the area surveyed on this date
--Used "PowerBait" in small pools with eddies and overhangs. No fish observed.
--Between stations 1+00 and 10+50 the average gradient was 10.16%

Station	Slope (%)	Width (ft)	GPS pt	Notes	Date
0+00		6	S000		9/12/2019
	32				
0+50		12			
	22				
1+00		10			
	14				
1+50		12		braided, shallow	
	13				
2+00		8	S001		
	13				
2+50		10			
	8				
3+00		5			
	8				
3+50		7			
	7				
4+00		4	S002		
	6				
4+50		6			
	8				
5+00		5			
	5				
5+50		2			
	7				
6+00		7	S003		
	5				
6+50		4			
	7				
7+00		5			
	11				
7+50		8			
	9				
8+00		8	S004		
	11				
8+50		6			
	7				
9+00		9			
	18				
9+50		12			
	17				
10+00		15	S005		
	19				
10+50		6			
	27				
11+00		16			
	19				

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11+50		8		
	19			
12+00		7	S006	
	32			10/1/2019
12+50		10		
	30			
13+00		6		
	28			
13+50		5		
	28			
14+00		8	S007	
	34			
14+50		8		flows under stringer bridge @ rail grade
	30			
15+00		6		
15+35	40			begin bedrock cascade @50%
15+50		10		
	37			
16+00		10	S008	
	53			2 channels 20' apart
16+50		10		1 channel
16+65	40			end bedrock
17+00		15		
	31			
17+50		15		
	45			
18+00		10	S009	
	37			
18+50		12		begin bedrock
	44			
19+00		15		
	48			
19+50		10		
	37			
20+00		25	S010	
20+20	41			end bedrock
20+50		10		
	28			
21+00		8		
	26			
21+50		7		
	30			
22+00		7	S011	
	21			
22+50		6		
	20			
23+00		6		

	21		
23+50		16	2 channels
	26		
24+00		11 S012	
24+25	27		1 channel
24+50		7	
	17		
25+00		10	
	21		
25+50		6	
	19		
26+00		12 S013	
	26		
26+50		8	
	27		
27+00		7	
	20		
27+50		8	
	26		
28+00		7 S014	
	28		
28+50		6	
	31		
29+00		7	
	27		
29+50		8	
	28		
30+00		8 S015	
	31		
30+50		7	
30+75	32		begin bedrock cascade
31+00		8	
	22		
31+50		20	rail grade, end cascade
	28		
32+00		8 S016	
	35		
32+50		10	
	34		
33+00		5	
	26		
33+50		15	
	26		
34+00		10 S017	
	19		
34+50		7	
	17		

35+00	9 S018	end survey. Lower gradient below

Electrofishing Protocol Survey Report
Unnamed Tributary to May Creek
December 11, 2019

Background

The stream of interest (hereafter referred to as "Stream C1") was previously mapped in the Washington Forest Practices water type database (as a type F stream, transitioning to a type N stream), without field surveys to substantiate the locations of these statuses. During field reconnaissance for the proposed Middle May timber sale, DNR presales forester Tyson Whiteid identified this stream and measured physical stream channel characteristics for portions of it (see Appendix A for stream profile data). After determining physical characteristics of a fish-bearing stream located well above a natural fish barrier for the stream, he requested consultation regarding the potential perched habitat.

Due to the timing of this discovery (in early September, 2019), a request was made to conduct an electrofishing survey outside of the protocol survey window. On September 17 and 18, 2019 this request was approved by fisheries representatives of the Stillaguamish Tribe of Indians and Washington Department of Wildlife (WDFW), respectively. Simultaneously through the associated email communications, representatives of the U.S. Fish and Wildlife Service (USFWS) and DNR Forest Practices were also notified regarding the intent to conduct a survey "out of season" on this stream.

This stream originates on DNR land in the northwest quarter of Section 34, Township 28 North, Range 09 East. It flows in a generally southern, then southwestern direction until it converges with May Creek on private land. See Figure 1 for a representation of this stream location. Please note that the field-verified location of the stream is represented by the dark blue line labelled "Middle May Streams", which also corresponds with the Tulalip Area LiDAR Streams database.

Approximately 0.9 stream mile of the lower portion of this stream (as correctly mapped) is currently modeled as Type F in the Washington forest practices water type database. According to WDFW fish distribution GIS data, coho salmon have been documented or modeled within May Creek. Neither the WDFW Fish Distribution nor WDFW Salmonid Stock Inventory layers show species-specific fish distributions in Stream C1.

The average width of the majority (approximately 1,000 feet) of the surveyed segment of Stream C1 is seven feet, and the average slope of this portion is approximately 10%. Two qualifying pools were observed during the survey (the deepest of which was measured at 14 inches deep), and 19 additional lower quality pools were noted.

This report is intended to provide supporting documentation for a forest practice application that will be submitted for the proposed Middle May timber sale, which is being developed by DNR's state lands timber sale program. Two of the proposal's three units are located in the immediate vicinity of the stream that was sampled, with one of them located near the segment that was surveyed. While the intent of this survey was not to change the F/N break as it is currently mapped, it should be noted that on-site observations of a natural fish barrier reported by Tyson suggest that the F/N break should actually be located approximately 320 feet downstream (to the south; see

Figure 1). This topic will not be discussed further in this report, however, as the focus of the survey was to rule out fish presence in a limited (~1,000 foot) segment of perched habitat.

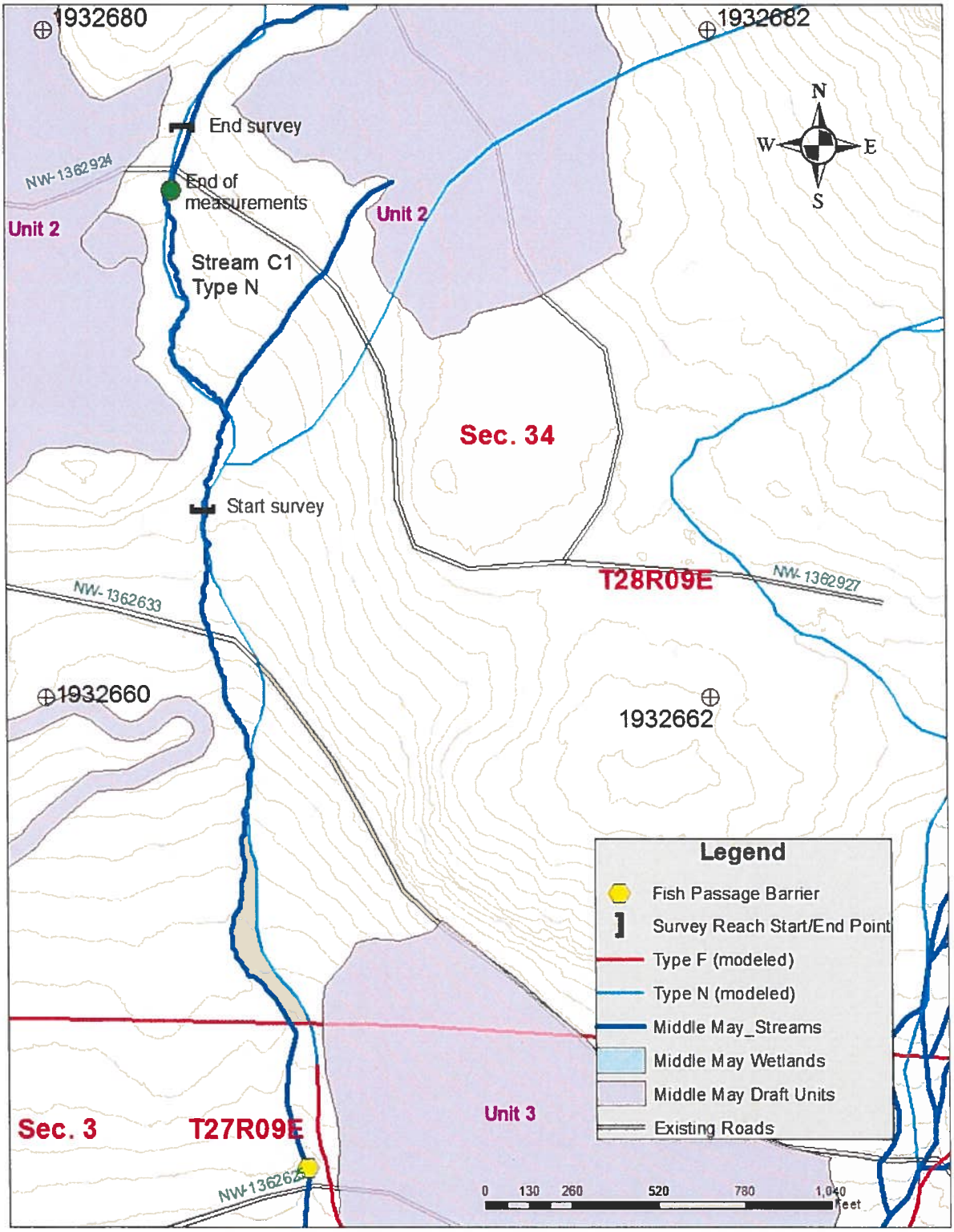

Figure 1. Proposed stream types for unnamed tributary to May Creek (Stream C1)

Electrofishing Survey

The electrofishing survey was conducted by DNR Fish & Wildlife Biologist L. Egtvedt on September 23, 2019, with assistance from DNR presales forester Sam Woodson. This timing followed several rain events, ensuring sufficient stream flow for the survey. Electrofishing was conducted by Egtvedt, while Woodson recorded survey data and observations. A Smith-Root LR-20-B backpack electrofisher was used to conduct the surveys, and the electrofisher settings were 400 volts, 30 Hertz, and 15% duty cycle for all of the surveys. Physical stream characteristics data (Appendix A) had been collected prior to the survey.

The common streambed substrates encountered in the stream were generally pebble and cobble, with some of the lower-gradient segments containing notable sand substrate, as well. Abundant large woody debris was observed during most of the survey. The channel was generally shallow, with moderate to high sinuosity.

Electrofishing on Stream C1 began at 1105 hrs immediately above a cascade over cobble and boulders (Figure 2). Not far below this starting point, the slope increases to an average of 27%, with short segments of 40-50%. Weather conditions were light/high overcast throughout the survey. Stream flow and water clarity were optimal for observing fish. Water temperature and conductivity were measured as 10.2°C and 26μS, respectively. The survey effort was terminated at 1350 hrs (with a brief lunch break 1210-1225) when the average stream width became consistently less than two feet at bankfull width, after covering a total of 1,325 feet of the stream. All available habitat (including 21 pools, with two "qualifying" pools) was surveyed during 981 seconds of electrofishing effort. Zero fish were observed, and no other vertebrate species were encountered during the survey.

This electrofishing survey followed guidelines provided in the DNR interim water typing rules (WAC 222-16-031), Chapter 13 Forest Practices Board Manual, and WDFW protocol survey guidelines (2007). All electrofishing activities were conducted under the authorization of, and in compliance with, the following permits:

- NOAA National Marine Fisheries Service Section 10(a)(1)(A) Research Permit # 19738
- US Fish & Wildlife Service Native Threatened Species Recovery Permit # TE-81239B
- Washington Department of Fish & Wildlife Scientific Collection Permit # Danilson 18-355

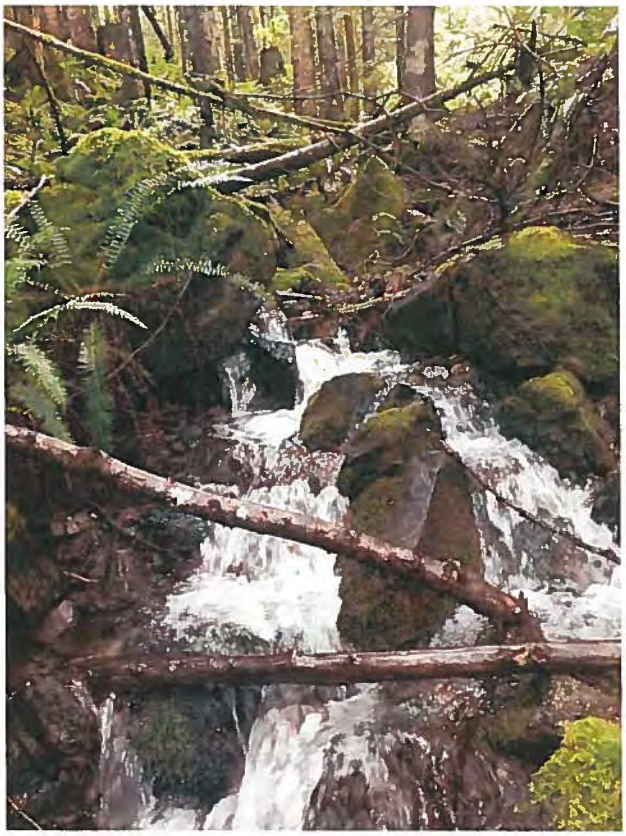

Figure 2. Survey on Stream C1 began at the top of a cascade/slope >30%

Figure 3. One of the qualifying pools on Stream C1.

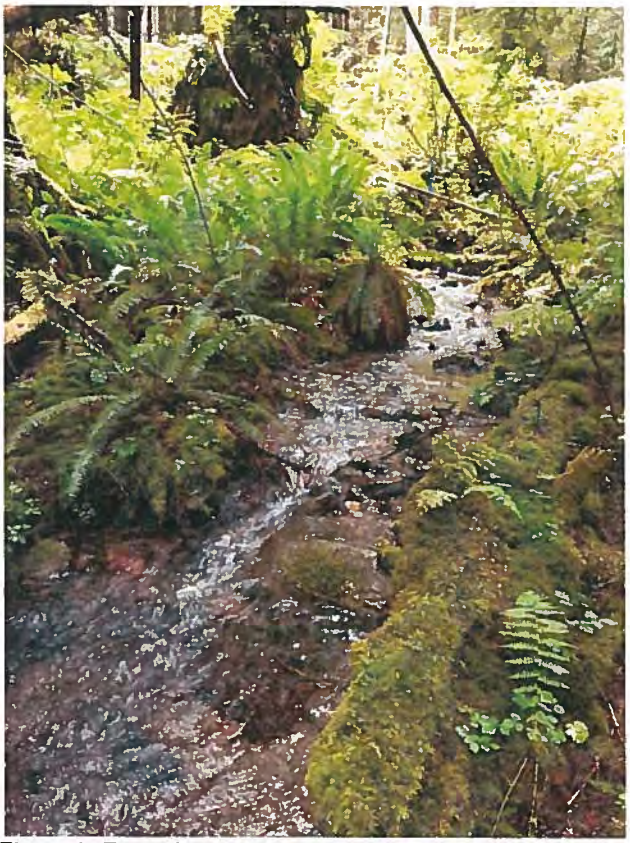

Figure 4. Example segment of Stream C1 with physical characteristics of a fish-bearing stream.

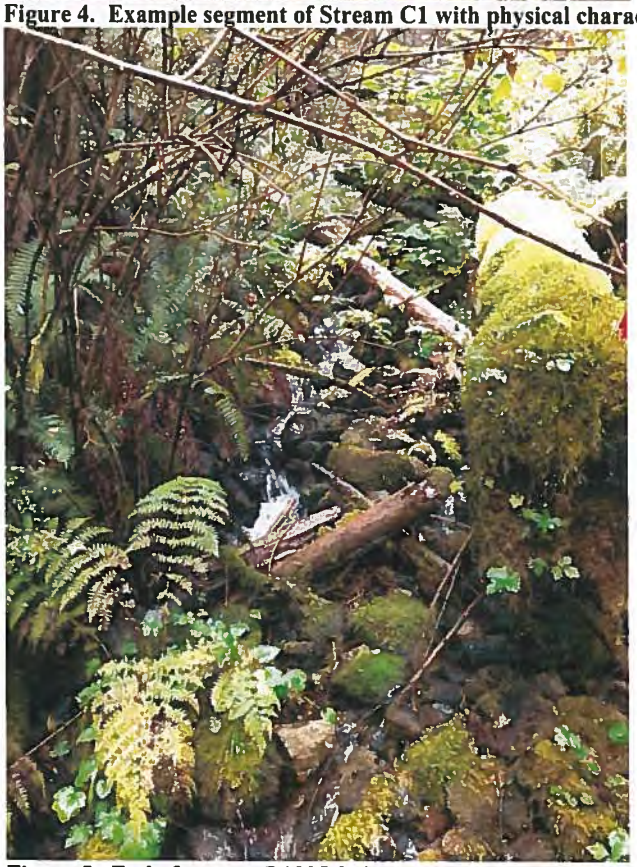

Figure 5. End of survey @1325 ft, but also with increased slope (30+%) and stream width <two ft.

APPENDIX A. PROTOCOL SURVEY DATA TABLE
Physical characteristics of unnamed "Stream C1" in S34 of T28NR09E

Survey Conditions	
Date:	09/23/2019 (1105-1350 w/ break 1210-1225)
Survey ID:	Stream C1
Coordinates:	Starting point= 47.868402/-121.640249
Stream Name:	Unnamed
Tributary To:	May Creek
Surveyor(s):	L. Egtvedt, S. Woodson
Water Temperature:	10.2°C
Specific Conductivity:	26 µS
Electrofisher Type/Settings:	Smith-Root LR20-B
Total Time Electrofishing:	981 seconds
Total Survey Distance:	1,325 feet
Total Qualifying Pools:	2
Total Pools:	21

Physical Survey Data:

Water Ref. ID	Distance (feet)	Wetted Channel Width (Feet)	Bankfull Channel Width (Feet)	Slope (%)	High Quality Pool Tally	Total Pool Tally	Substrate Type	Comments
Stream C1	00+00		16				Pebble, cobble*	Start just above cascade/slope 30+%
				27				*Measurements were
	00+50		6				Pebble, cobble	sometimes estimated, with the knowledge that they were
				19				well >2 feet
	01+00		15				Pebble, cobble	*sand in some segments, also; not noted at specific locations
				17				
	01+50		12				Pebble, cobble	
				18				
	02+00		9				Pebble, cobble	
				7				
	02+50		6				Pebble, cobble	
				11				
	03+00		8				Pebble, cobble	
				9				
	03+50		8				Pebble, cobble	
				11				
	04+00		5				Pebble, cobble	
				7				
	04+50		4				Pebble, cobble	
				5				
	05+00		7				Pebble, cobble	
				7				
	05+50		2				Pebble, cobble	
				5				

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	06+00		5				Pebble, cobble	
				8				
	06+50		6				Pebble, cobble	
				6				
	07+00		4				Pebble, cobble	
				7				
	07+50		7				Pebble, cobble	
				8				
	08+00		5				Pebble, cobble	
				8				
	08+50		10				Pebble, cobble	
				13				
	09+00		8				Pebble, cobble	
				13				
	09+50		12				Pebble, cobble	
				14				
	10+00		10				Pebble, cobble	
				22				
	10+50		12				Pebble, cobble	
				32				
	11+00		6				Pebble, cobble	Just below old road grade, small "waterfall"
				**				**stream measurements were
	11+50		**					not taken above this point, but
								it was noted that the slope is
	12+00							30+% & channel width is
								<2 feet
	12+50							
	13+00							
	13+25							END OF SURVEY

Forest Practices Application/Notification Addendum
State Trust Lands Habitat Conservation Plan (HCP) Addendum Implementation Checklist for the Marbled Murrelet, 2019

OESF, Columbia, South Coast, South Puget, North Puget, and Straits HCP Planning Units

Refer to DNR's *State Trust Lands Final Habitat Conservation Plan Amendment for the Marbled Murrelet Long-term Conservation Strategy* (MM LTCS) (2019) and Memorandum for Phase One Implementation of the Marbled Murrelet Long-term Conservation Strategy (12/4/2019). The marbled murrelet GIS layer is available on the Quick Data Loader and State Uplands Viewing Tool and is titled "State Lands – Marbled Murrelet – HCP Policy."

1. Is the proposed Forest Practices activity within an occupied site?
   ☐ Yes, the proposal is inconsistent with the MM LTCS. Stop the proposed activity or document in Question #6 specifics of how the proposal follows MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, and provide approval from the Forest Resources Division.
   ☒ Not within an occupied site. Go to Question #2.

2. Is the proposed activity within an occupied site buffer?
   ☐ Yes, must follow MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, for the type for forest practices activity and document compliance with MM LTCS guidance in Question #6. If inconsistent with the MM LTCS, stop the proposed activity.
   ☒ Not within outer occupied site buffer. Go to Question #3.

3. Is the proposed activity within a special habitat area (SHA)?
   ☐ Yes, must follow MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, for the type for forest practices activity and document compliance with MM LTCS guidance in Question #6. If inconsistent with the MM LTCS, stop the proposed activity.
   ☒ Not within an SHA. Go to Question #4.

4. Is the proposed activity in marbled murrelet habitat within long-term forest cover?
   ☐ Yes, must follow MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, for the type of forest practices activity and document compliance with MM LTCS guidance in Question #6. If inconsistent with the MM LTCS, stop the proposed activity.
   ☒ Not within marbled murrelet habitat within long-term forest cover. Go to Question #5.

5. Is the proposed activity in marbled murrelet habitat that is identified for metering in the first decade of the implementation of the MM LTCS?
   ☐ Yes, must follow MM LTCS metering guidance, as outlined in the Memorandum dated 12/04/2019, for the type for forest practices activity. Document compliance with MM LTCS metering guidance in Question #6. If inconsistent with MM LTCS metering guidance, stop the proposed activity.
   ☒ Not within marbled murrelet habitat within long-term forest cover.

6. If directed to provide further documentation from any of the above questions, provide that information here. Additional information relevant to the proposal may also be added in this section. Also attach any documentation of consultations with the Forest Resources Division.

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Forest Practices Application/Notification Addendum DNR
State Trust Lands HCP Implementation Checklist for the
Northern Spotted Owl, 2017 (all HCP planning units & OESF)

Refer to the DNR State Trust Lands HCP Implementation Agreement for the NSO, 2017.

1. Is the Forest Practice activity within a NRF Management Area?
   ☒Yes, Go to #2.
   ☐No, Go to #6.
2. Is the Forest Practice activity within a designated 500-acre Nest Patch?
   ☐Yes, Harvesting within a nest patch is **inconsistent** with HCP without consultation, refer to Substitution Agreement, Section I.A. **Stop Proposed Activity** or document in Question #17 the specifics of proposal and Forest Resources Division concurrence if intending to proceed. Maintenance of existing roads is permitted, describe road maintenance activity in Question #17. If able to proceed, go to #3.
   ☒No, Go to #3.
3. Is the Forest Practice activity within 0.7 miles of a spotted owl nest site (status 1 or 2)?
   ☐Yes, Apply timing restrictions; refer to Substitution Agreement, Section I. Go to #4.
   ☒No, Go to #4.
4. Is the SOMU where the Forest Practice activity is located above the target amount of 50% NRF habitat?
   ☐Yes, Proceed with the activity, ensuring that habitat within the SOMU will not fall below the target amount of 50% and no more than 5% of sub-mature or better habitat within the SOMU is harvested within two years. Please describe in Question #17; if the activity will be harvesting habitat or non-habitat, whether it is an enhancement activity or even- age harvest and how many acres or percentage of NRF habitat will remain within the SOMU after harvest. Go to #16.
   ☒No, Go to #5.
5. Is the Forest Practice activity within suitable sub-mature habitat or better or "next best"?
   ☒Yes, Ensure NRF habitat remains after completion of the harvest activity or that the activity will not increase the length of time for the target amount to reach a suitable habitat condition. Please describe in Question #17, type of activity, how habitat will be maintained or next best stands enhanced and what the final stand condition will be. Go to #16.
   ☐No, Ensure that target amount of habitat within the SOMU will not take longer to achieve after activity. Please describe in Question #17 how management activity will maintain and/or achieve the NRF target amount. Go to #16.
6. Is the Forest Practice activity within a Dispersal or DFC Management Area?
   ☐Yes, Go to #7.
   ☐No, Go to #10.
7. Is the Forest Practice activity within 0.7 miles of a spotted owl nest site (status 1 or 2)?
   ☐Yes, Apply timing restrictions; refer to Substitution Agreement, Section I. Go to #8.
   ☐No, Go to #8.
8. Is the SOMU where the Forest Practice activity is located, above the target amount of 50% dispersal habitat?
   ☐Yes, Proceed with the activity, ensuring that habitat within the SOMU will not fall

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below the target amount of 50%. Please describe in Question #17; if the activity will be harvesting habitat or non-habitat, whether it is an enhancement activity or even- age harvest and how many acres or percentage of dispersal habitat will remain within the SOMU after harvest. Go to #16.

☐No, Go to #9.

9. Is the Forest Practice activity within suitable dispersal habitat or better or "next best"?
   - ☐Yes, Ensure dispersal habitat remains after completion of the harvest activity or that the activity will not increase the length of time for the target amount to reach a suitable habitat condition. Please describe in Question #17, type of activity, how habitat will be maintained or next best stands enhanced and what the final stand condition will be. Go to #16.
   - ☐No, Ensure that target amount of habitat within the SOMU will not take longer to achieve after activity. Please describe in Question #17 how management activity will maintain and/or achieve the dispersal target amount. Go to #16.
10. Is the Forest Practice activity located within the OESF?
   - ☐Yes, Go to #11.
   - ☐No, Go to #16.
11. Is the Forest Practice Activity within Young Forest Habitat, Old Forest Habitat, or a Pathways Management Candidate Stand?
   - ☐Yes, Go to #12.
   - ☐No, Proceed with the activity, Please describe in Question #17; whether it is an enhancement activity or even-age harvest and how many acres. Describe percentage of suitable habitat will remain within the SOMU after harvest. Go to #16.
12. Is the Forest Practice activity in a SOMU in the maintenance and enhancement phase?
   - ☐Yes, Activity can proceed if it ensures commitments to OESF Forest Land Plan as described within the Substitution Agreement, Section II and that habitat within the SOMU will not fall below the target amount. For Old Forest Habitat both the 20% Old Forest and 40% Young Forest and Better thresholds must be maintained. Active and Passive Pathways Management Candidate Stands are available if thresholds are maintained. Please describe in Question #17 how management activity will maintain habitat thresholds and how any candidate stands will be managed in accordance with the pathway prescription. Go to #16.
   - ☐No, Go to # 13.
13. Is the Forest Practice activity in Old Forest Habitat in a SOMU that is in the Restoration Phase?
   - ☐Yes, No harvesting of Old Forest Habitat is allowed during the Restoration Phase.
   - ☐No, Go to #14.
14. Is the Forest Practice activity a regeneration harvest of Young Forest Habitat in a SOMU that is in the Restoration Phase?
   - ☐Yes, No regeneration harvest of Young Forest Habitat in a SOMU during the Restoration Phase without consultation with the HCP and Scientific Consultation Section. Describe in #17 how many acres or percentage of suitable habitat will remain within the SOMU after harvest. Document the reasons for harvest of young forest habitat and provide documentation of approval. Go to #16.
   - ☐No, Go to #15.

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15. Is the Forest Practice activity in an Active or Passive Pathways Management Candidate Stand in a SOMU that is in the Restoration Phase?
    - ☐Yes, No harvesting of Passive Pathways Management Candidate Stand is allowed during the Restoration Phase. Active Pathways Management Candidate Stands can only have thinning activities. Please describe in Question # 17 how management activity will maintain habitat thresholds or how thinning activities will enhance habitat. Describe in #17 how many acres or percentage of suitable habitat will remain within the SOMU after harvest.
    - ☐No, Proceed with the activity, if commitments to the OESF Forest Land Plan as described within the Substitution Agreement and the SOMU are maintained and habitat does not fall below the minimum threshold. Please describe in Question # 17 how management activity will maintain habitat thresholds or how thinning activities will enhance habitat. Describe in #17 how many acres or percentage of suitable habitat will remain within the SOMU after harvest. Go to #16.
16. Is the Forest Practice activity located within a Status 1 or 2 spotted owl management circle based on the WDFW database?
    - ☐Yes, Apply harvest timing restrictions to activities within the best 70-acre core around the site center; refer to Substitution Agreement, Section III. Include location of best 70-acre core on Forest Practices Map. Go to #17.
    - ☒No, Go to #17.
17. Provide any additional information or details requested from previous questions on the following lines. If no additional information is required, simply state "not applicable" below. Otherwise, include the SOMU name(s) when necessary if activity is within NRF or dispersal management areas or OESF and how habitat will be maintained or enhanced, etc. If varying from standard HCP guidance, attach concurrence/variance approval from Land Management Division and/or Federal Services and discuss below.
    End checklist.

This proposed forest practice activity was reviewed by a region wildlife biologist. The harvest units are located in "non-habitat" on land that has been designated for Nesting Roosting Foraging (NRF) habitat management in the Wallace River Spotted Owl Management Unit (SOMU). New road construction is proposed through stands designated as "Next Best", as well as small portions of two polygons of "sub-mature" habitat, which are adjacent to Unit 2. For additional information, please refer to the attached wildlife review memo dated December 20, 2019.

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December 20, 2019

TO: Tyson Whiteid, Forester

FROM: Lisa Egtvedt, Wildlife Biologist

SUBJECT: Wildlife Review of the Proposed Middle May Timber Sale

This memo serves as documentation of a region biologist review of the proposed Middle May Timber Sale in section 3 and 4 of Township 27 North, Range 9 East and sections 33 and 34 of Township 28 North, Range 9 East. This proposal is comprised of three units of variable retention harvest in stands that are approximately 66-108 years old. The units are located in "non-habitat" on land that has been designated for Nesting Roosting Foraging (NRF) habitat management in the Wallace River Spotted Owl Management Unit (SOMU). New road construction is proposed through stands designated as "Next Best", as well as small portions of two polygons of "sub-mature" habitat, which are adjacent to Unit 2.

I have conducted multiple field visits to this proposal and surrounding areas. Unit 1 was field-reviewed on November 7, 2013, when it was part of the Singletary Timber Sale. Additional field visits have occurred more recently on May 23, 2019 (accompanied by Tyson Whiteid, lead presales forester for the proposal), and May 28 & 30, June 11, and October 11 & 15, 2019 (all unaccompanied). The purposes of these visits included assessment of some stands in terms of spotted owl habitat criteria and designation, verification of marbled murrelet habitat delineation (which was delineated by another DNR biologist, Curtis Thompson), and development of leave tree strategy recommendations.

An electrofishing survey was conducted for one of the streams associated with the proposal on September 23, 2019. I was accompanied by Sam Woodson for this survey. Please see the report titled "Electrofishing Protocol Survey Report, Unnamed Tributary to May Creek" for more information regarding this survey and the results.

Based on the site visits, consultation with the forester, and a GIS review, I have the following input:

- None of the units contain suitable marbled murrelet habitat. This proposal was originally developed under the Marbled Murrelet Interim Strategy for the North Puget Planning Unit (which is why delineation was conducted). Since then, the Marbled Murrelet Long-term Conservation Strategy (MM LTCS) has been adopted. The GIS layer addressing murrelet habitat management under the LTCS shows some "possible LTFC" (long-term forest cover) that overlaps with p-stage habitat in the north central portion of Unit 2. However, field reconnaissance determined that this portion of the "possible LTFC" does ***not*** represent a stream/riparian corridor. The portion of it that does represent a stream has been bounded out of the unit. There are no Special Habitat Areas in the vicinity of the proposal.

- There is a small bald in Unit 1 that was assessed in 2013. At that time it was determined that it would not be operationally feasible to mark leave trees around it. However, it was determined that it *would* be possible to fell trees away from it, avoiding significant disturbance to this feature. My only additional recommendation for the current proposal regarding this feature is that it be mentioned in the Notes to Compliance Administrator and addressed during the pre-work meeting.

- There is a rock knob located to the south of the central part of Unit 2 that has several relatively small cliff faces on the north and south sides of it. None of these near-vertical rock faces contain any special habitat features such as ledges, overhangs, or fissures. Only the cliff faces on the north side of the knob are contained within the unit, and they are located close to the unit boundary, making it unlikely that they will be disturbed by harvest activities. No specific recommendations were provided regarding these features.

- There is a large cliff face with many special habitat features including ledges, overhangs, and fissures that is located immediately to the north of Unit 3. Although it is located outside of the unit, I have been informed that there is a very slight chance that tailholds (for downhill yarding) may be needed in the vicinity of the cliff. Because I did not conduct a full evaluation of this feature in relation to this potential impact, there will be wording in the contract and Notes to CA stating that if tailholds are determined to be needed on or near the cliff, a region biologist will be contacted to conduct an on-site review of the proposed tailhold location(s).

- I was consulted about the leave tree strategy prior to marking, and was in agreement with the general approach as presented. I have since been informed that the leave tree strategy has focused on the following:
    - Large down wood (and large old stumps in Unit 1)
    - Snags and structurally unique trees (some considered to be "platform trees")
    - Wet areas that are too small to require formal buffers as wetlands
    - Type 5 streams (in Unit 1) and a type 5 headwater (in Unit 2)
    - A pocket of western redcedar (in Unit 2)
    - A larger bald (with snags) in Unit 3
    - Areas of advanced regeneration/vertical stand diversification (in Unit 3)
    - Adjacency to "submature habitat" for spotted owls
    - Visual aesthetics
    - Some of the additional scattered individual trees specifically targeted Douglas-fir and western redcedar trees, as well as larger-diameter trees.

General Proposal Area

Following a GIS review of WDFW and DNR wildlife & habitat databases, it was determined:

- The nearest known occupied marbled murrelet site is located approximately 3.4 miles to the north-northeast of the proposal. Due to this distance, there is no need for mitigation measures for marbled murrelet occupied sites in association with this proposal.

- There was a peregrine falcon eyrie documented just over ¾ mile to the east-southeast of Unit 3 in 2009. The DNR is no longer required to mitigate for this species since its delisting. Additionally, this site is also located beyond the distance that once required mitigation measures.

Besides those mentioned above, no other occurrences of habitats or species of concern are reported within or near the proposal area.

Thank you for the opportunity to review and provide input for this proposal.

Whiteid, Tyson (DNR)

From: ESTEP, ALLEN (DNR)
Sent: Friday, December 20, 2019 11:41 AM
To: Egtvedt, Lisa (DNR)
Cc: MCPHERSON, HEATHER (DNR); Whiteid, Tyson (DNR); Moon, John (DNR); McGuire, Al (DNR); Stapleton, Tim (DNR)
Subject: FW: Road through sub-mature NSO habitat
Attachments: Middle May road thru sub-mature habitat.jpg

Importance: High

Lisa, we concur with your proposal for some new road construction within suitable NSO habitat in a SOMU below threshold. As we transition from the Settlement Agreement and into implementation of the RS-FRIS spotted owl habitat layer, we'll evaluate what type of documentation for these future road activities are necessary.
Thanks,

Allen Estep
Asst. Manager, Forest Resources Division
Washington State Department of Natural Resources (DNR)
1111 Washington St SE
PO Box 47014
Olympia, WA 98504-7014
360-902-2898 (office)
360-280-9948 (cell)
allen.estep@dnr.wa.gov
www.dnr.wa.gov

From: Egtvedt, Lisa (DNR) <LISA.EGTVEDT@dnr.wa.gov>
Sent: Friday, December 20, 2019 11:36 AM
To: ESTEP, ALLEN (DNR) <ALLEN.ESTEP@dnr.wa.gov>
Cc: Whiteid, Tyson (DNR) <Tyson.Whiteid@dnr.wa.gov>; Moon, John (DNR) <John.Moon@dnr.wa.gov>; McGuire, Al (DNR) <al.mcguire@dnr.wa.gov>; Stapleton, Tim (DNR) <Tim.Stapleton@dnr.wa.gov>
Subject: Road through sub-mature NSO habitat
Importance: High

Hi there, Allen,

Thank you so much for this morning's phone conversation regarding new road construction that is planned for the proposed Middle May Timber Sale. As we discussed, there is a section of this new road that is planned to be built through small portions of two "sub-mature" habitat polygons that are designated for northern spotted owl NRF management. You informed me that we are not required to submit consultation memos on this topic now, due to the fact that we are no longer functioning under the Settlement Agreement. However, we agreed that it would be prudent to document this aspect of the proposal via an email to you.

Please see the attached map for a representation of the new road segments that are proposed to pass through portions of two polygons of sub-mature habitat. Let me know if there is additional information that you would like me to provide on this topic.

Thanks again,

Lisa Egtvedt
Fish and Wildlife Biologist
Northwest Region
Washington Department of Natural Resources (DNR)
360-333-5769
lisa.egtvedt@dnr.wa.gov
www.dnr.wa.gov

DEPARTMENT OF
NATURAL RESOURCES

FOREST RESOURCES
DIVISION
1111 WASHINGTON STREET SE,
MS 47014
OLYMPIA, WA 98504-7014

360-902-1600
WWW.DNR.WA.GOV

To: Al McGuire, Cascade District Manager, Northwest Region

From: Sara E. Palmer, State Lands Archaeologist

Date: January 6, 2020

Re: Middle May Timber Sale Unit 2 and Road Right-of-Way, Township 28 North, Range 9 East, Section 34, Willamette Baseline and Meridian, Skagit County, Washington.

On November 20, 2019, DNR archaeologist Sara Palmer, cultural resource technician John Moon, and forester Tyson Whiteid conducted a field review of Unit 2 of the Middle May Timber Sale. Followup visits were conducted by DNR district manager Al McGuire on December 10, 2019 and archaeologist Sara Palmer on January 2, 2020. No cultural resources were identified within the harvest unit or right-of-way.

Cultural Context

The project area falls within the traditional lands of the Skykomish people, in an area covered by the 1855 Treaty of Point Elliot. Unit 2 is immediately east of Upper Wallace Falls, a series of cataracts on the Wallace River above the town of Gold Bar.

This area north of the Skykomish River was initially surveyed by the federal government beginning in the early 1880s, although physical access is challenging enough, due to the rugged terrain, that the mapping process took some years. The Government Land Office (GLO) map of the portion of the township surveyed in 1896 shows two cabins in Section 34: one is mapped within what is now the proposed forest road right-of-way, and the other is between the two lobes of Unit 2 (see attached map).

The construction of the Great Northern Railway through Stevens Pass between 1889 and 1893 brought an influx of homesteaders, miners, and loggers to the Skykomish Valley. There were several mining claims in the area, including the Galena Lode, near Wallace Falls but outside the proposed timber harvest area (U.S. Surveyor General 1908); the Copper Bell Mine to the east (active ca. 1897-1910); and several claims around Lake Isabel.

After the abandonment of the mines in the early twentieth century, the area was logged, primarily by the Wallace Falls Timber Company. Railroad grades and logging features associated with this company have been recorded as 45SN623 (grades and some minor associated hardware) and 45SN565 (a log flume). Some tracts were also logged by the Clarke Sleigh Timber Company and Weyerhaeuser. A 1928 map, on file at the Washington State Archives, shows Wallace Falls' facilities and rights-of-way, some lands

0 250 500 Feet

Legend

Middle May Units

Timber Sale Units on GLO Base Map
Middle May Timber Sale
Snohomish County, Washington
January 2020

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logged by other companies in the area, and other features on this hillside. One area of note is that marked "clearing" on the map just south of the western lobe of Unit 2. The 1928 map does not show any railroad or other road grades in what is now Unit 2 (Wallace Falls Timber Company 1928). The portions of Section 34 now under state management came into trust between 1938 and 1941, suggesting that initial logging of those areas was completed prior to those dates (Department of Natural Resources n.d.).

Cultural Resource Management Considerations

Two potential cultural resource concerns were identified during background research and initial fieldwork on this project: linear features and the two cabin locations marked on the 1896 GLO map. Following additional fieldwork and historical records analysis, I do not believe that either potential concern requires further consideration during timber harvest activities.

Linear Features. DNR records show that the now-abandoned roads in Section 34 were in use circa 1948, when an easement was granted to the Coos Bay Pulp Corporation in the same general location where these roads are located, although there is a 1943 easement for roads in an unspecified location within the section which may suggest a somewhat earlier origin date. Easements over these rights-of-way were subsequently granted to the Scott Paper Company in 1953 and to a series of individuals who took out mineral exploration leases in the section during the 1960s and 70s. It is possible that some of these roads were initially constructed for logging railroad use, but they were then in continuous use as forest management truck roads for at least forty years (Department of Natural Resources n.d.). Given that these linear features do not appear on the 1929 logging railroads map, but are clearly documented as actively used and maintained truck roads in the 1940s-70s, I do not consider it appropriate to add them to the site record for 45SN623 because I am not confident that the majority of their physical fabric is over fifty years old.

Cabin Locations. Field notes and mapping from the 1896 survey show two cabins in Section 34. This area then experienced timber harvest and burned at least once during the 1920s (Palmer 2015). No evidence of these former habitation areas was observed during sale layout.

The northern location is marked "Hugh Ferrigan." This area appears to correspond to a rocky knoll between the two lobes of Unit 2, an area which has been excluded from the timber sale.

The southern location falls within the proposed right-of-way for a road to be built to access Unit 2. The georeferenced location, on field review, turns out to be on a steep slope surrounded by small (8-20') cliffs. It is quite difficult to access. This suggests that there may be inaccuracies in the original map. It appears more likely that the cabin was located downslope, along a relatively level watercourse to the southeast, or upslope, in a small flat just southeast of the western lobe of Unit 2, the area marked "clearing" in the 1928 map. Neither of those areas will experience ground disturbance during the proposed timber harvest.

Figure 1: Southern location. Orange flagging marks right-of-way boundary.

References

Department of Natural Resources
n.d. Tract Book. On file at the Washington Department of Natural Resources, Olympia.

Government Land Office
1896 Township 28 North, Range 9 East. On file at the Bureau of Land Management.

Palmer, Sara E.
2015 *Re: National Register Eligibility Evaluation (Negative) and Site Record Update for the Wallace Falls Timber Company Railroad Grades, SN00623, near Reiter, Snohomish County, Washington.* Washington State Department of Natural Resources, Olympia.

U.S. Surveyor General's Office
1908 Plat of the Claim of James F. Robertson and R. F. Parkhurst, Known As the Galena Extension Lode. Mineral Survey No. 907, Claim Located December 7, 1905. On file at the Bureau of Land Management.

Wallace Falls Timber Company
1928 "Wallace Falls Timber Co. Gold Bar Wash." Topographic map. August 8, 1928. On file at the Washington State Archives, Olympia.

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

July 9, 2015

Ms. Sara Palmer
State Lands Archaeologist
Department of Natural Resources
1111 Washington Street SE, Mail Stop 47014
Olympia, WA 98504-701

In future correspondence please refer to:
Log: 030514-04-DNR
Property: FPA - Singletary TBS Wallace Falls Timber Company Railroad Grade - SN00623 and May Creek Bridge Abutments
Re: Archaeology- Determined NOT Eligible

Dear Ms. Palmer:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP). The above referenced property has been reviewed on behalf of the State Historic Preservation Officer. We have reviewed both evaluations for the Wallace Falls Timber Company Railroad Grades, 45SN00623 and the May Creek Bridge Abutments.

We agree with your recommendations and that 45SN00623 The Wallace Falls Timber Company Railroad Grades are not eligible for listing in the National Register of Historic Places (NRHP) and/or the Washington Heritage Register (WHR) because it does not retain integrity and meet Criteria A, B, C, or D. We also agree that the May Creek Bridge Abutments (requires Smithsonian Trinomial) are not eligible for listing in the NRHP and/or WHR because they do not retain significance under Criteria A, B, C, or D. Therefore these sites do not require any further protection or permits from DAHP and need not be avoided.

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Thank you for the opportunity to review. Should you have any questions, please contact me.

Sincerely,

Gretchen Kaehler
Local Governments Archaeologist
(360) 586-3088
gretchen.kaehler@dahp.wa.gov

cc. Tara Duff, Cultural Resources Director, Stillaguamish Tribe
Kerry Lyste, Cultural Resources, Stillaguamish Tribe
Richard Young, Cultural Resources Director, Tulalip Tribes
Larry Campbell, THPO, Swinomish Tribe
Josephine Peters, Swinomish Tribe
Norma Joseph, Chair, Sauk-Suiattle Tribe
Jackie Ferry, THPO, Samish Tribe
Steven Mullen-Moses, Cultural Resources, Snoqualmie Tribe
Dennis Lewarch, THPO, Suquamish Tribe

Waits, Bill (DNR)

From: Bails, Jamie L (DFW)
Sent: Tuesday, December 10, 2019 10:35 AM
To: Halgren, Amy (DNR); DNR RE NORTHWEST REGION
Cc: McGuire, Al (DNR); Whiteid, Tyson (DNR); Moon, John (DNR); Stuart, Jason (DNR)
Subject: RE: Middle May Preliminary Proposal - Bridge designs

Thanks Amy for the preliminary drawings. WDFW concurs with installing bridges at all crossing locations and with the planned designs as attached.

Sincerely, Jamie

Habitat Biologist
Region 4/Mill Creek office
Snohomish River and south Island County
425-379-2309
425-231-1832 (cell)

From: Halgren, Amy (DNR)
Sent: Monday, December 9, 2019 4:47 PM
To: Bails, Jamie L (DFW)
Cc: McGuire, Al (DNR) ; Whiteid, Tyson (DNR) ; Moon, John (DNR) ; Stuart, Jason (DNR)
Subject: Middle May Preliminary Proposal - Bridge designs

Jamie,

Thank you for speaking with me today. As discussed earlier by phone I'm sending you preliminary drawing details (attached) for the proposed structures on the Middle May timber sale. I don't expect any further substantial changes to the design so we are requesting your concurrence on this proposal.

I will send a separate email regarding our proposal for stream bank restoration.

Thank you!

AMY HALGREN
Cascade District Engineer
State Lands, Northwest Region
Washington State Department of Natural Resources (DNR)
C. 360-333-7480
VM. 360-856-3500 x 5134
amy.halgren@dnr.wa.gov
www.dnr.wa.gov

Waits, Bill (DNR)

From: Halgren, Amy (DNR)
Sent: Monday, January 6, 2020 7:14 AM
To: Bails, Jamie L (DFW)
Cc: Whiteid, Tyson (DNR); Moon, John (DNR); McGuire, Al (DNR)
Subject: Re: Middle May Preliminary Proposal - Stream Bank Restoration

Thanks Jamie!

Sent from my iPhone

On Jan 3, 2020, at 2:16 PM, Bails, Jamie L (DFW) <Jamie.Bails@dfw.wa.gov> wrote:

> Thanks Amy. The plans look good to me.
>
> Jamie
>
> *Habitat Biologist*
> *Region 4/Mill Creek office*
> *Snohomish River and south Island County*
> *425-379-2309*
> *425-231-1832 (cell)*
>
> **From:** Halgren, Amy (DNR) <AMELIA.HALGREN@dnr.wa.gov>
> **Sent:** Thursday, January 2, 2020 3:12 PM
> **To:** Bails, Jamie L (DFW) <Jamie.Bails@dfw.wa.gov>; Huang, Steven (DNR) <STEVEN.HUANG@dnr.wa.gov>; 'Derek Marks (dmarks@tulaliptribes-nsn.gov)' <dmarks@tulaliptribes-nsn.gov>
> **Cc:** McGuire, Al (DNR) <al.mcguire@dnr.wa.gov>; Moon, John (DNR) <John.Moon@dnr.wa.gov>; Whiteid, Tyson (DNR) <Tyson.Whiteid@dnr.wa.gov>; Stuart, Jason (DNR) <JASON.STUART@dnr.wa.gov>; Zylstra, Tamra (DNR) <TAMRA.ZYLSTRA@dnr.wa.gov>
> **Subject:** FW: Middle May Preliminary Proposal - Stream Bank Restoration
>
> Hey folks!
>
> I've finished the drawings for the proposed stream restoration work, as previously discussed. I'm sending you those now (see attached) and I'm resending you the proposed bridge designs (just for informational purposes--there have been no changes to the bridge designs since December 3). If you could kindly forward these to anyone you think I've missed and respond either with your concurrence or with your request for more information, I'd very much appreciate it.
>
> Thanks so much and happy new year! ☺
>
> **AMY HALGREN**
> 360-333-7480
>
> **From:** Halgren, Amy (DNR)
> **Sent:** Monday, December 9, 2019 5:02 PM

To: Bails, Jamie L (DFW) <Jamie.Bails@dfw.wa.gov>
Cc: Whiteid, Tyson (DNR) <Tyson.Whiteid@dnr.wa.gov>
Subject: Middle May Preliminary Proposal - Stream Bank Restoration

Hey Jamie!

I'm still working on the formal drawing for our stream bank restoration proposal so this is just a preliminary sketch to give you a clearer idea of what we are proposing on this non-fish segment of stream channel. Let me know if you need further information.

As discussed, our goal is to reduce channel avulsion risk (caused in part by a poorly located orphaned grade) that could impact downstream landowners. This stream bank restoration proposal is located on the same stream as Bridge 2 in our Middle May proposal
(but above the type break), in the non-fish portion of the stream.

Our proposal is to remove the remains of the orphaned grade located within the channel (and the material that has been deposited into top of it) and use this material to construct a berm that mimics the natural bank. Depending on the conditions we find during excavation I expect to move 30-80 cubic yards of material. The screen capture below shows 5' contours over a LiDAR hillshade:

<image002.jpg>

Thank you for your time and consideration!

AMY HALGREN
Cascade District Engineer
State Lands, Northwest Region
Washington State Department of Natural Resources (DNR)
C. 360-333-7480
VM. 360-856-3500 x 5134
amy.halgren@dnr.wa.gov
www.dnr.wa.gov

Waits, Bill (DNR)

From: Derek Marks <dmarks@tulaliptribes-nsn.gov>
Sent: Thursday, January 2, 2020 3:32 PM
To: Halgren, Amy (DNR); Bails, Jamie L (DFW); Huang, Steven (DNR)
Cc: McGuire, Al (DNR); Moon, John (DNR); Whiteid, Tyson (DNR); Stuart, Jason (DNR); Zylstra, Tamra (DNR); Neil Shea
Subject: RE: Middle May Preliminary Proposal - Stream Bank Restoration

Amy,

Thanks for the review opportunity… At this time, Tulalip Tribes concurs with the proposal as indicated.

Happy New Year!

Derek Marks
Tulalip Tribes-*Timber Fish & Wildlife Manager*
(360) 716-4614
https://nr.tulaliptribes.com/

From: Halgren, Amy (DNR) <AMELIA.HALGREN@dnr.wa.gov>
Sent: Thursday, January 2, 2020 3:12 PM
To: Bails, Jamie L (DFW) <Jamie.Bails@dfw.wa.gov>; Huang, Steven (DNR) <STEVEN.HUANG@dnr.wa.gov>; Derek Marks <dmarks@tulaliptribes-nsn.gov>
Cc: McGuire, Al (DNR) <al.mcguire@dnr.wa.gov>; Moon, John (DNR) <John.Moon@dnr.wa.gov>; Whiteid, Tyson (DNR) <Tyson.Whiteid@dnr.wa.gov>; Stuart, Jason (DNR) <JASON.STUART@dnr.wa.gov>; Zylstra, Tamra (DNR) <TAMRA.ZYLSTRA@dnr.wa.gov>
Subject: FW: Middle May Preliminary Proposal - Stream Bank Restoration

Hey folks!

I've finished the drawings for the proposed stream restoration work, as previously discussed. I'm sending you those now (see attached) and I'm resending you the proposed bridge designs (just for informational purposes--there have been no changes to the bridge designs since December 3). If you could kindly forward these to anyone you think I've missed and respond either with your concurrence or with your request for more information, I'd very much appreciate it.

Thanks so much and happy new year! ☺

AMY HALGREN
360-333-7480

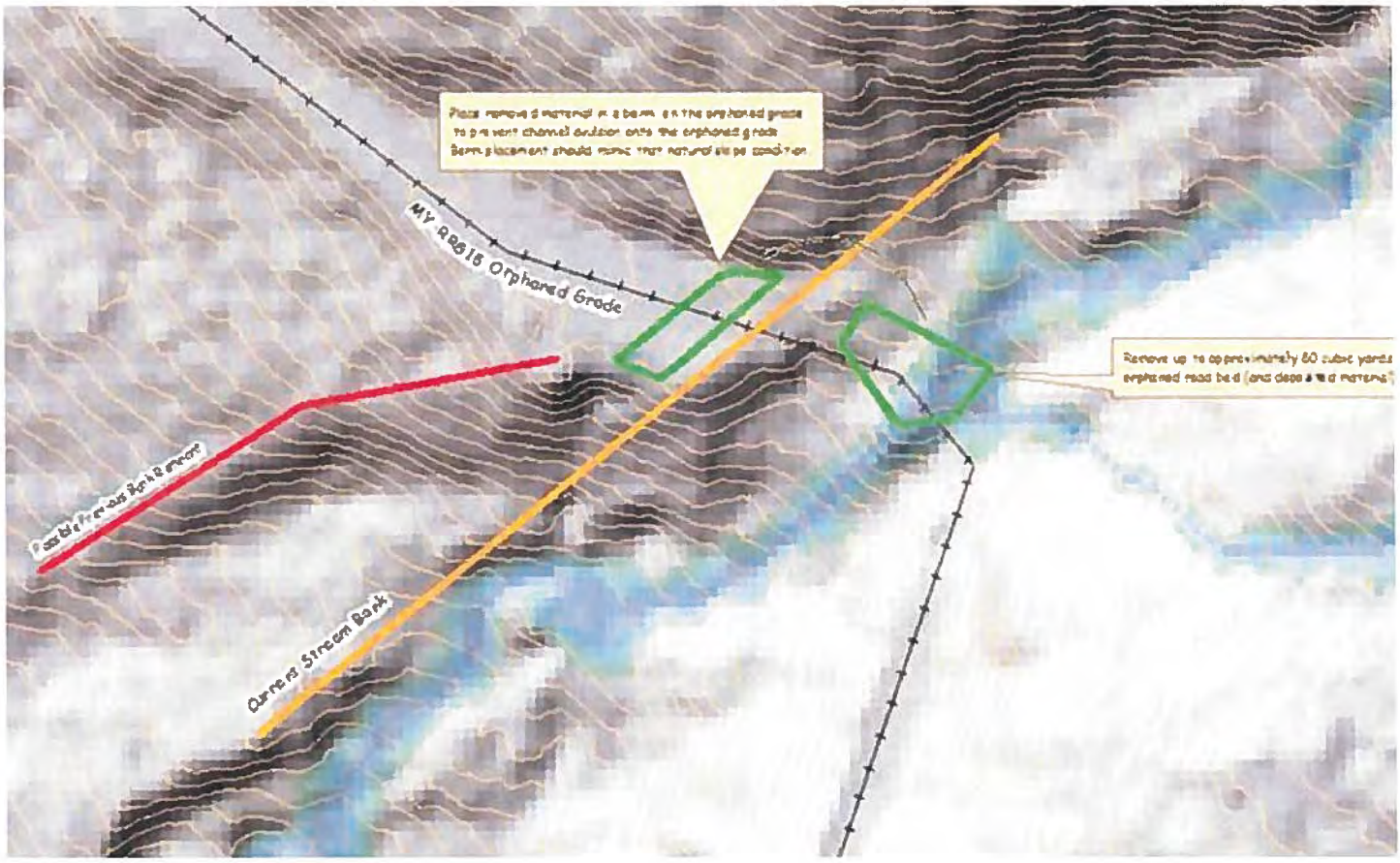
From: Halgren, Amy (DNR)
Sent: Monday, December 9, 2019 5:02 PM
To: Bails, Jamie L (DFW) <Jamie.Bails@dfw.wa.gov>
Cc: Whiteid, Tyson (DNR) <Tyson.Whiteid@dnr.wa.gov>
Subject: Middle May Preliminary Proposal - Stream Bank Restoration

Hey Jamie!

I'm still working on the formal drawing for our stream bank restoration proposal so this is just a preliminary sketch to give you a clearer idea of what we are proposing on this non-fish segment of stream channel. Let me know if you need further information.

As discussed, our goal is to reduce channel avulsion risk (caused in part by a poorly located orphaned grade) that could impact downstream landowners. This stream bank restoration proposal is located on the same stream as Bridge 2 in our Middle May proposal
(but above the type break), in the non-fish portion of the stream.

Our proposal is to remove the remains of the orphaned grade located within the channel (and the material that has been deposited into top of it) and use this material to construct a berm that mimics the natural bank. Depending on the conditions we find during excavation I expect to move 30-80 cubic yards of material. The screen capture below shows 5' contours over a LiDAR hillshade:



Thank you for your time and consideration!

AMY HALGREN
Cascade District Engineer
State Lands, Northwest Region
Washington State Department of Natural Resources (DNR)
C. 360-333-7480
VM. 360-856-3500 x 5134
amy.halgren@dnr.wa.gov
www.dnr.wa.gov

Waits, Bill (DNR)

From:	Halgren, Amy (DNR)
Sent:	Thursday, January 2, 2020 3:12 PM
To:	Bails, Jamie L (DFW); Huang, Steven (DNR); 'Derek Marks (dmarks@tulaliptribes-nsn.gov)'
Cc:	McGuire, Al (DNR); Moon, John (DNR); Whiteid, Tyson (DNR); Stuart, Jason (DNR); Zylstra, Tamra (DNR)
Subject:	FW: Middle May Preliminary Proposal - Stream Bank Restoration
Attachments:	76-77_Stream Restoration.pdf; 56-74_Middle May Fish Drawings - 2019-12-03 Draft.pdf

Hey folks!

I've finished the drawings for the proposed stream restoration work, as previously discussed. I'm sending you those now (see attached) and I'm resending you the proposed bridge designs (just for informational purposes--there have been no changes to the bridge designs since December 3). If you could kindly forward these to anyone you think I've missed and respond either with your concurrence or with your request for more information, I'd very much appreciate it.

Thanks so much and happy new year! ☺

AMY HALGREN
360-333-7480

From: Halgren, Amy (DNR)
Sent: Monday, December 9, 2019 5:02 PM
To: Bails, Jamie L (DFW) <Jamie.Bails@dfw.wa.gov>
Cc: Whiteid, Tyson (DNR) <Tyson.Whiteid@dnr.wa.gov>
Subject: Middle May Preliminary Proposal - Stream Bank Restoration

Hey Jamie!

I'm still working on the formal drawing for our stream bank restoration proposal so this is just a preliminary sketch to give you a clearer idea of what we are proposing on this non-fish segment of stream channel. Let me know if you need further information.

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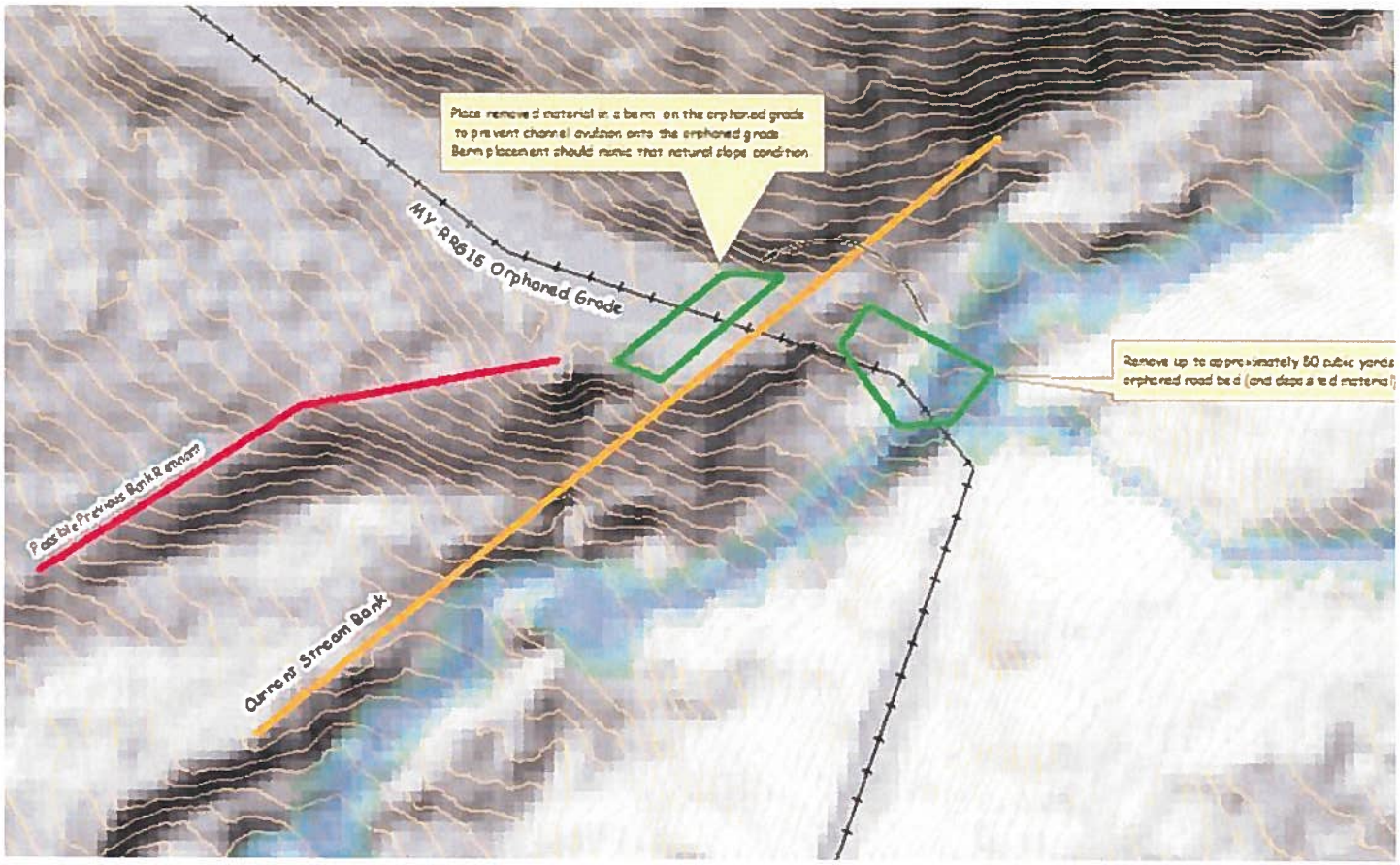
Our proposal is to remove the remains of the orphaned grade located within the channel (and the material that has been deposited into top of it) and use this material to construct a berm that mimics the natural bank. Depending on the conditions we find during excavation I expect to move 30-80 cubic yards of material. The screen capture below shows 5' contours over a LiDAR hillshade:



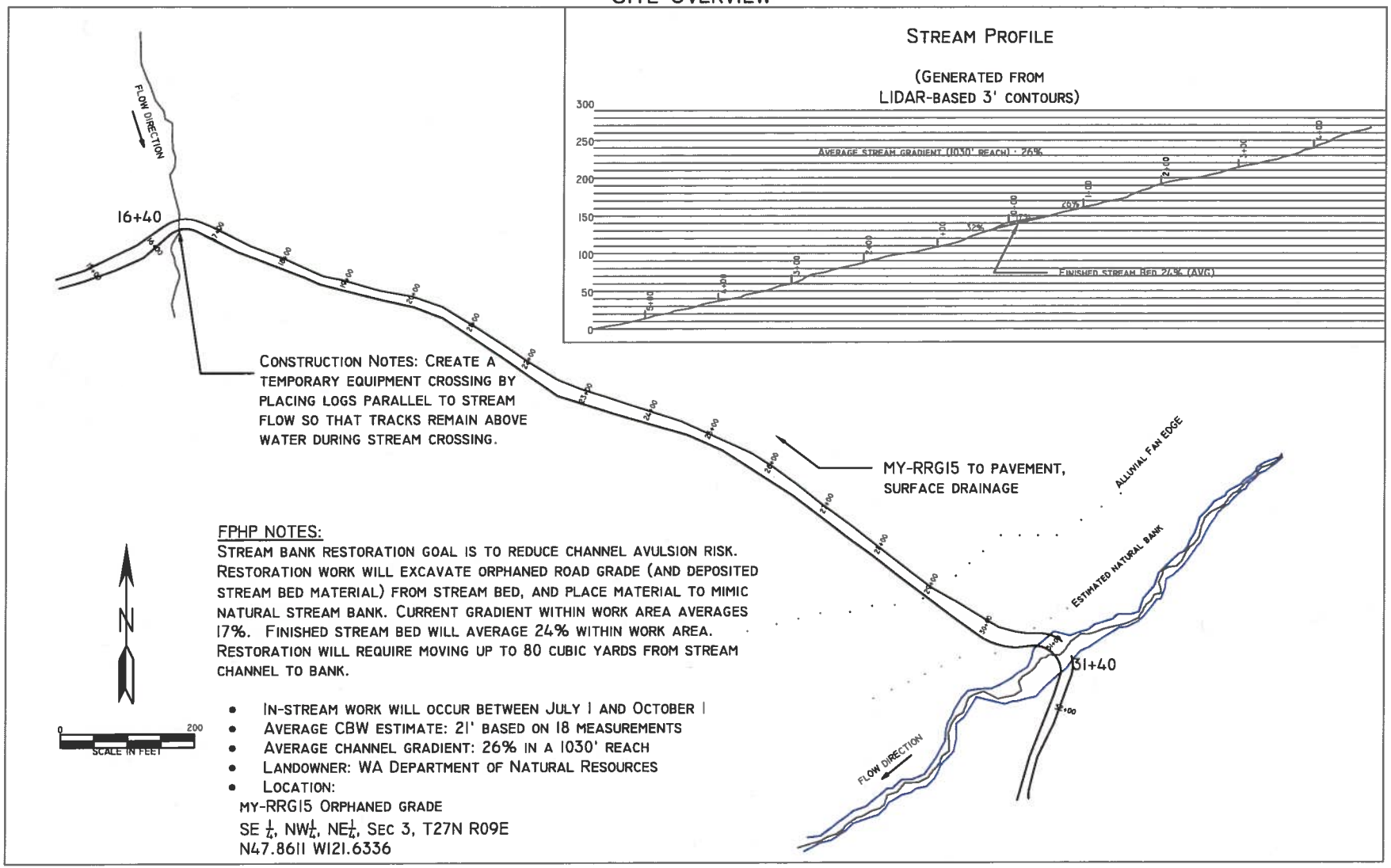
Thank you for your time and consideration!

AMY HALGREN
Cascade District Engineer
State Lands, Northwest Region
Washington State Department of Natural Resources (DNR)
C. 360-333-7480
VM. 360-856-3500 x 5134
amy.halgren@dnr.wa.gov
www.dnr.wa.gov

STREAM BANK RESTORATION DETAIL

MY-RRG15 ORPHANED ROAD GRADE -- STATION 30+60 TO 31+40

SITE OVERVIEW



FPHP NOTES:

STREAM BANK RESTORATION GOAL IS TO REDUCE CHANNEL AVULSION RISK. RESTORATION WORK WILL EXCAVATE ORPHANED ROAD GRADE (AND DEPOSITED STREAM BED MATERIAL) FROM STREAM BED, AND PLACE MATERIAL TO MIMIC NATURAL STREAM BANK. CURRENT GRADIENT WITHIN WORK AREA AVERAGES 17%. FINISHED STREAM BED WILL AVERAGE 24% WITHIN WORK AREA. RESTORATION WILL REQUIRE MOVING UP TO 80 CUBIC YARDS FROM STREAM CHANNEL TO BANK.

- IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
- AVERAGE CBW ESTIMATE: 21' BASED ON 18 MEASUREMENTS
- AVERAGE CHANNEL GRADIENT: 26% IN A 1030' REACH
- LANDOWNER: WA DEPARTMENT OF NATURAL RESOURCES
- LOCATION:

MY-RRG15 ORPHANED GRADE
SE ¼, NW¼, NE¼, SEC 3, T27N R09E
N47.8611 W121.6336

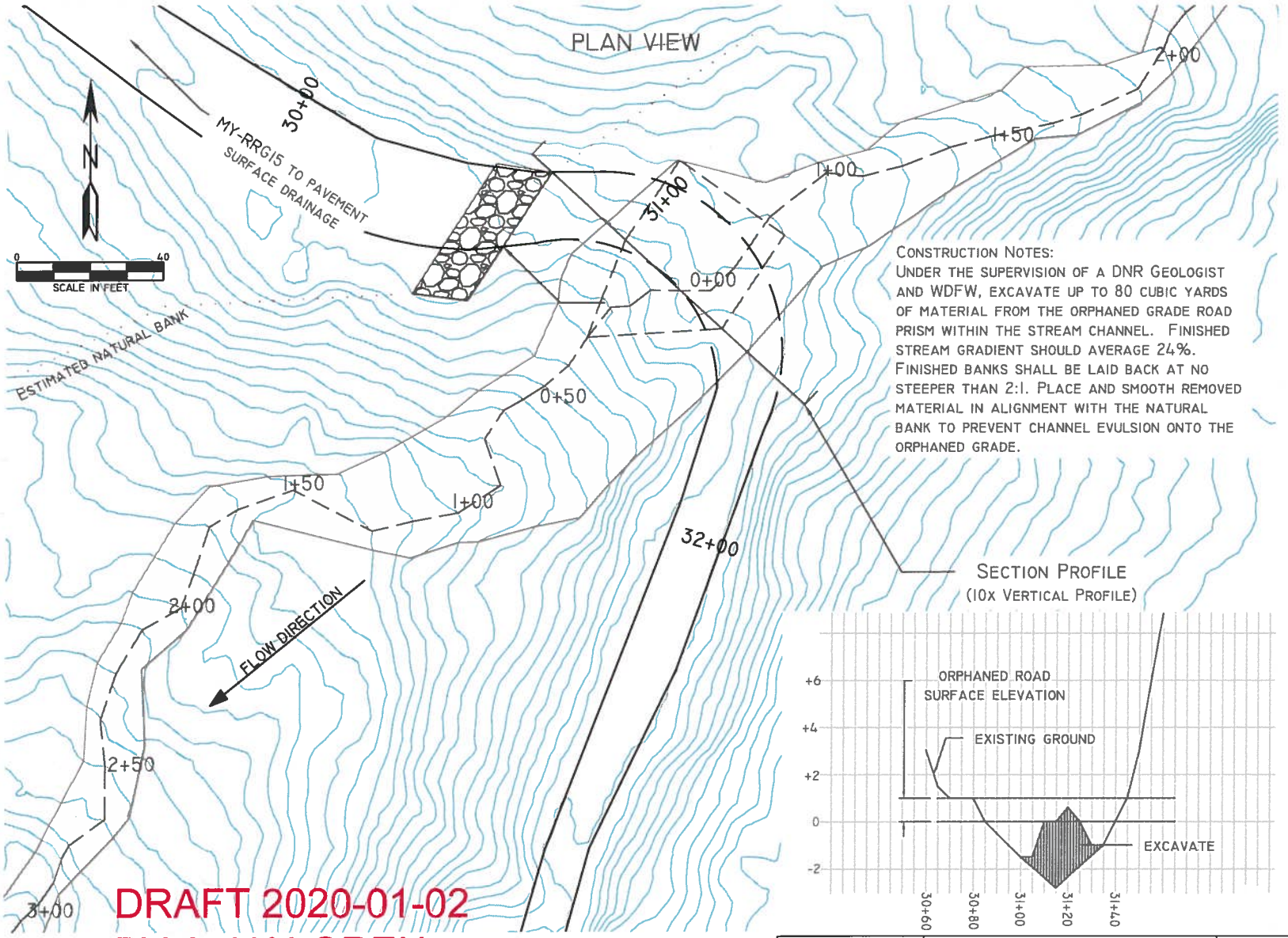
DRAFT 2020-01-02
BY A. HALGREN

CONTRACT #	PROJECT	SHEET
30-100161	MIDDLE MAY	XX OF XX

28173 40

STREAM BANK RESTORATION DETAIL

MY-RRG15 ORPHANED ROAD GRADE STATION 30+60 TO 31+40

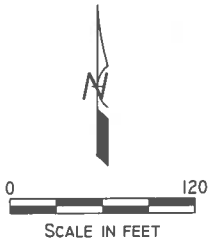


DRAFT 2020-01-02
BY A. HALGREN

CONTRACT #	PROJECT	SHEET
30 -100161	MIDDLE MAY	XX OF XX

2817340

BRIDGE SITE #1
78'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 54+10 TO 54+88
SITE OVERVIEW



FPA NOTES:
1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 38', BASED ON 7 MEASUREMENTS DOWNSTREAM OF THE BRIDGE SITE.
3. THE DESIGN PROVIDES 6' CLEARANCE ABOVE A Q100 WATER ELEVATION OF 90.5'.
4. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
5. LOCATION:
   MY-ML ROAD STATION 54+10 TO 54+88
   T27N R9E SEC3
   N47.85747, W121.63587

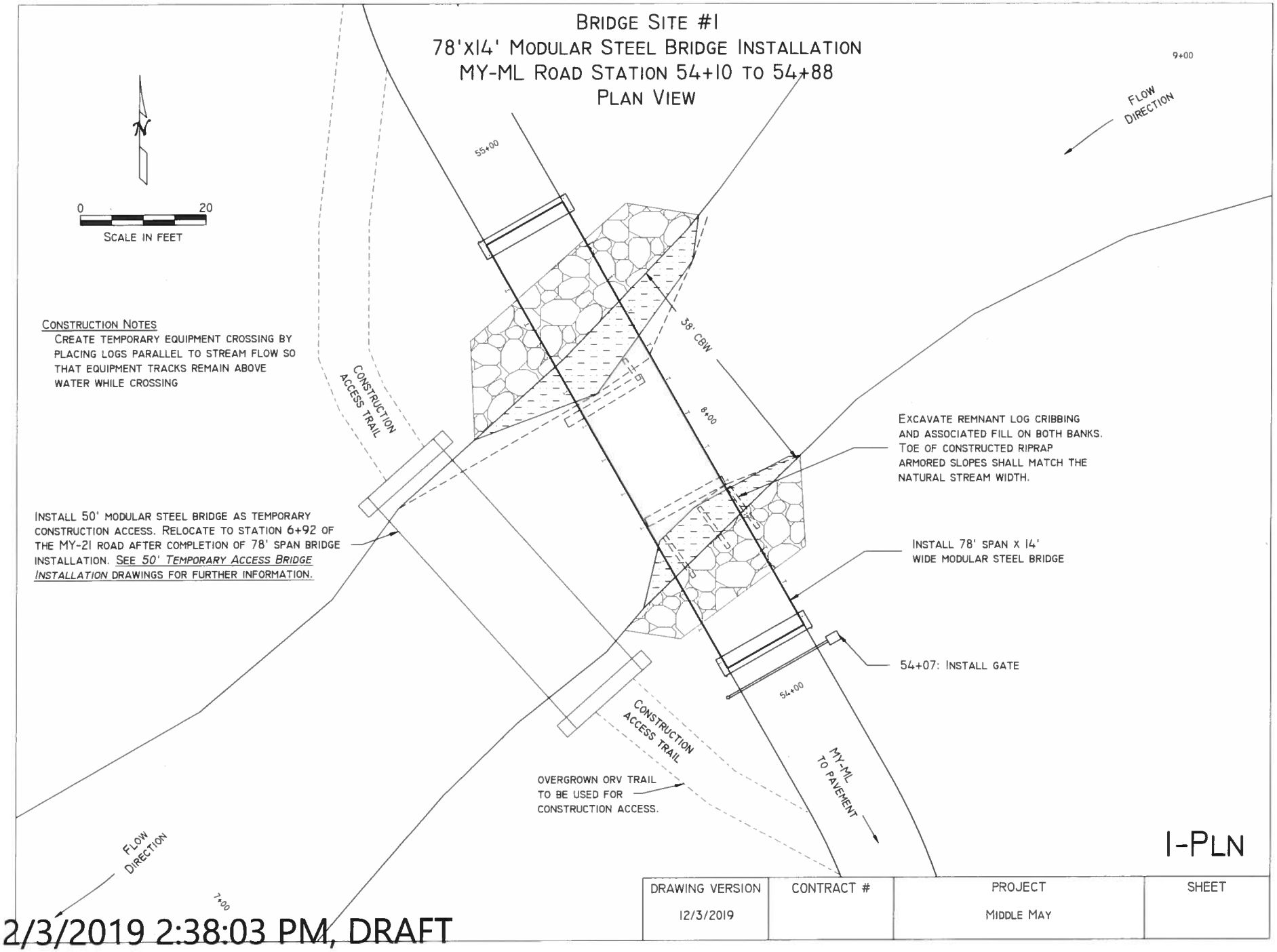
STREAM PROFILE
(10X VERTICAL EXAGGERATION)

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

28173401

12/3/2019 2:37:58 PM, DRAFT

Bridge Site #1
78'x14' Modular Steel Bridge Installation
MY-ML Road Station 54+10 to 54+88
Plan View



Drawing Version	Contract #	Project	Sheet
12/3/2019		Middle May	

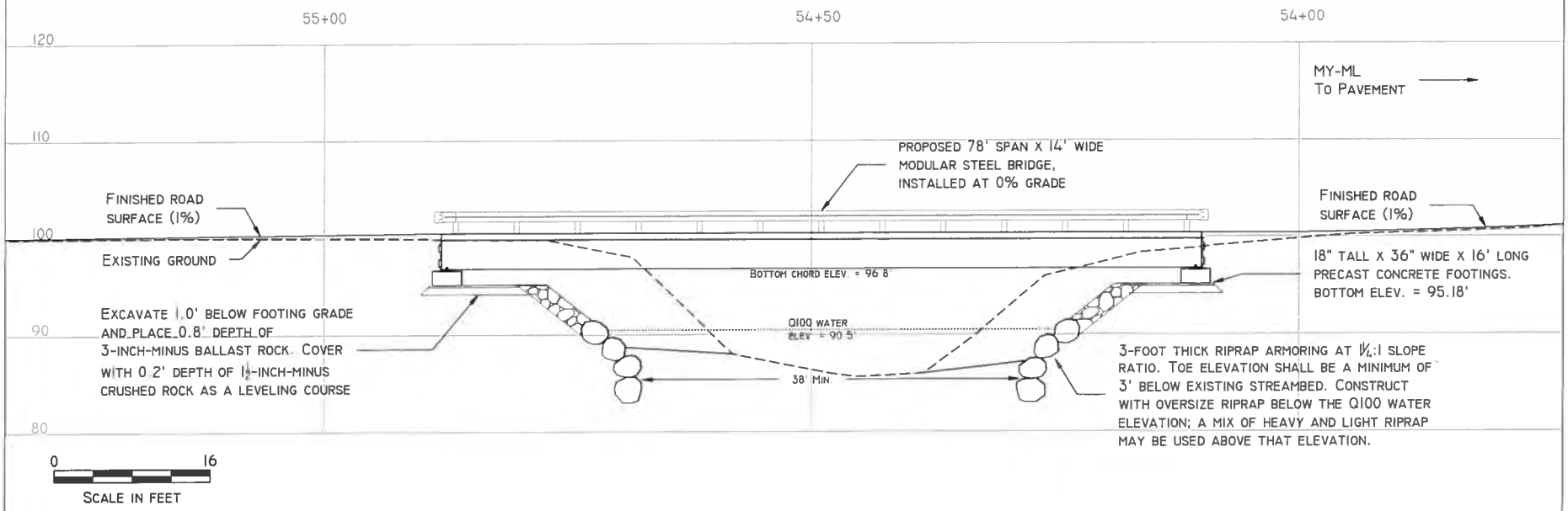
I-PLN

2817834U

12/3/2019 2:38:03 PM, DRAFT

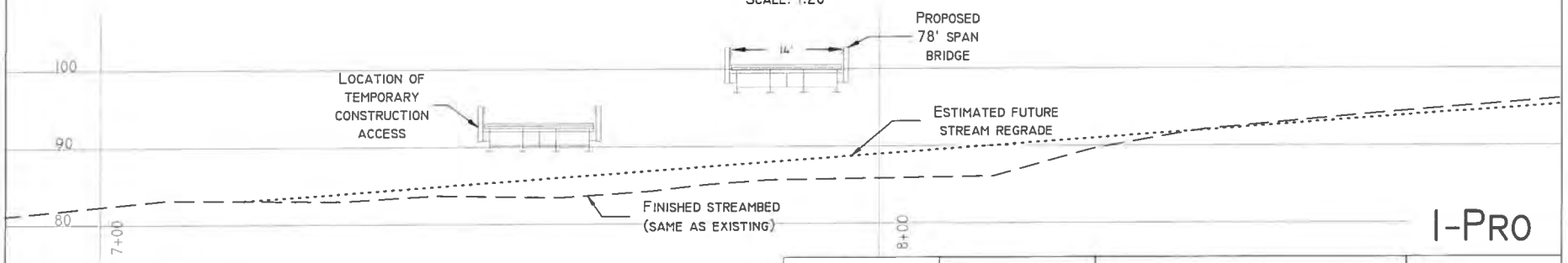
Bridge Site #1
78'x14' Modular Steel Bridge Installation
MY-ML Road Station 54+10 to 54+88

Bridge Profile - Looking Upstream



Bridge Section

Scale: 1:20



I-Pro

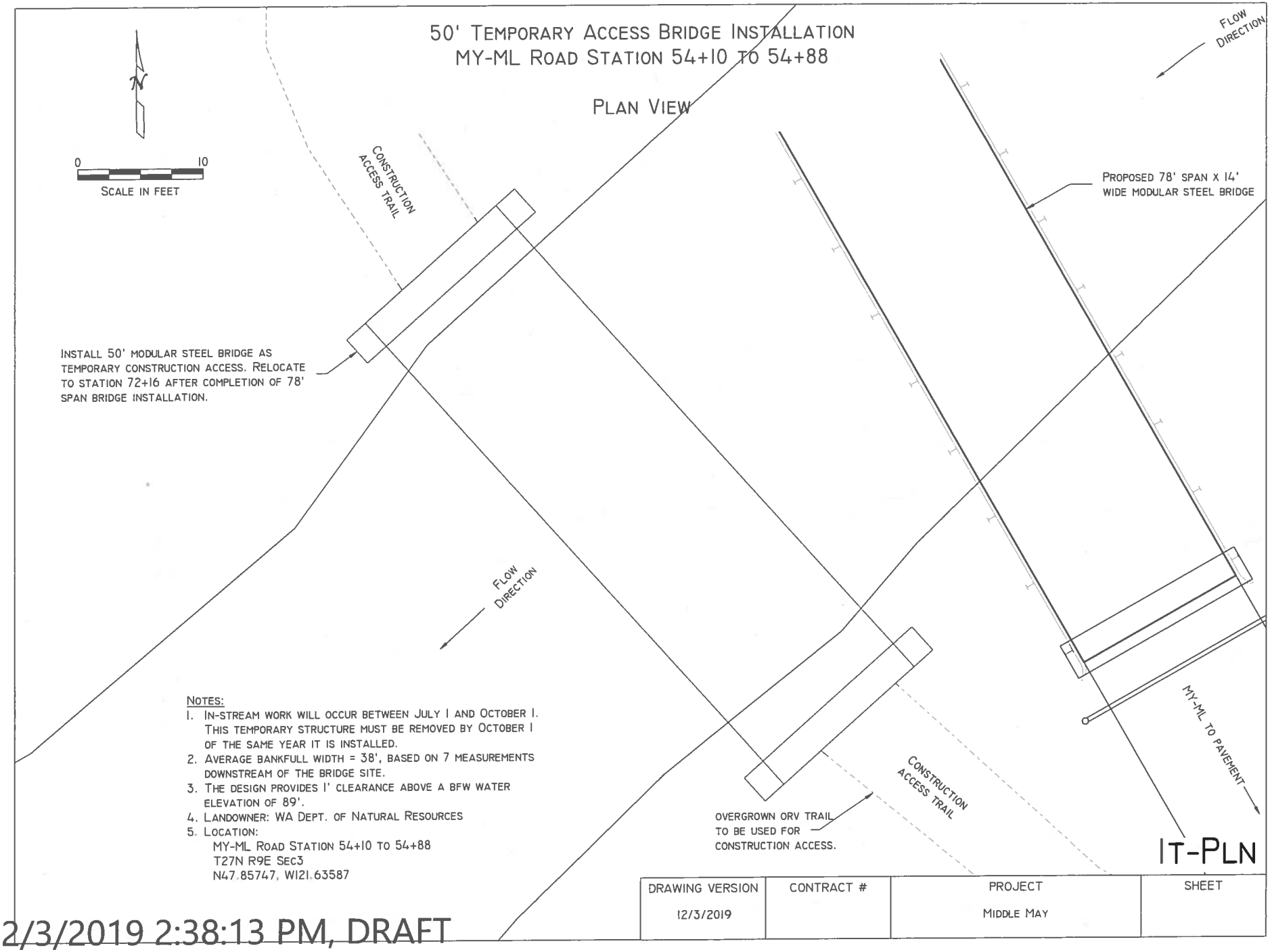
Drawing Version	Contract #	Project	Sheet
12/3/2019		Middle May	

12/3/2019 2:38:08 PM, DRAFT

28173401

50' Temporary Access Bridge Installation
MY-ML Road Station 54+10 to 54+88

Plan View



Notes:

1. In-stream work will occur between July 1 and October 1. This temporary structure must be removed by October 1 of the same year it is installed.
2. Average bankfull width = 38', based on 7 measurements downstream of the bridge site.
3. The design provides 1' clearance above a BFW water elevation of 89'.
4. Landowner: WA Dept. of Natural Resources
5. Location:
   MY-ML Road Station 54+10 to 54+88
   T27N R9E Sec3
   N47.85747, W121.63587

IT-PLN

Drawing Version	Contract #	Project	Sheet
12/3/2019		Middle May	

12/3/2019 2:38:13 PM, DRAFT

28173 40

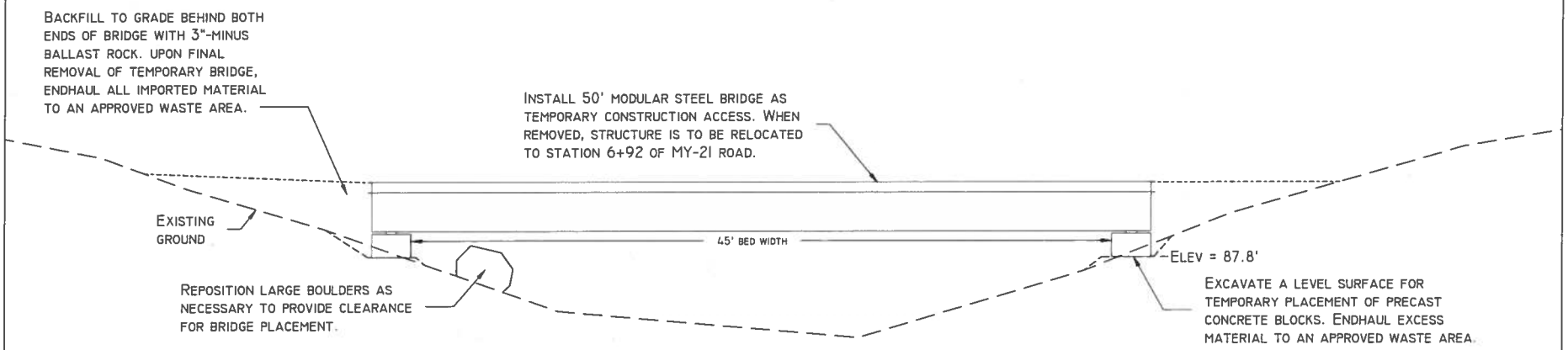
BRIDGE SITE #1
50' TEMPORARY ACCESS BRIDGE INSTALLATION
MY-ML ROAD STATION 54+10 TO 54+88

BRIDGE PROFILE - LOOKING UPSTREAM

N

0 10

SCALE IN FEET



IT-PRO

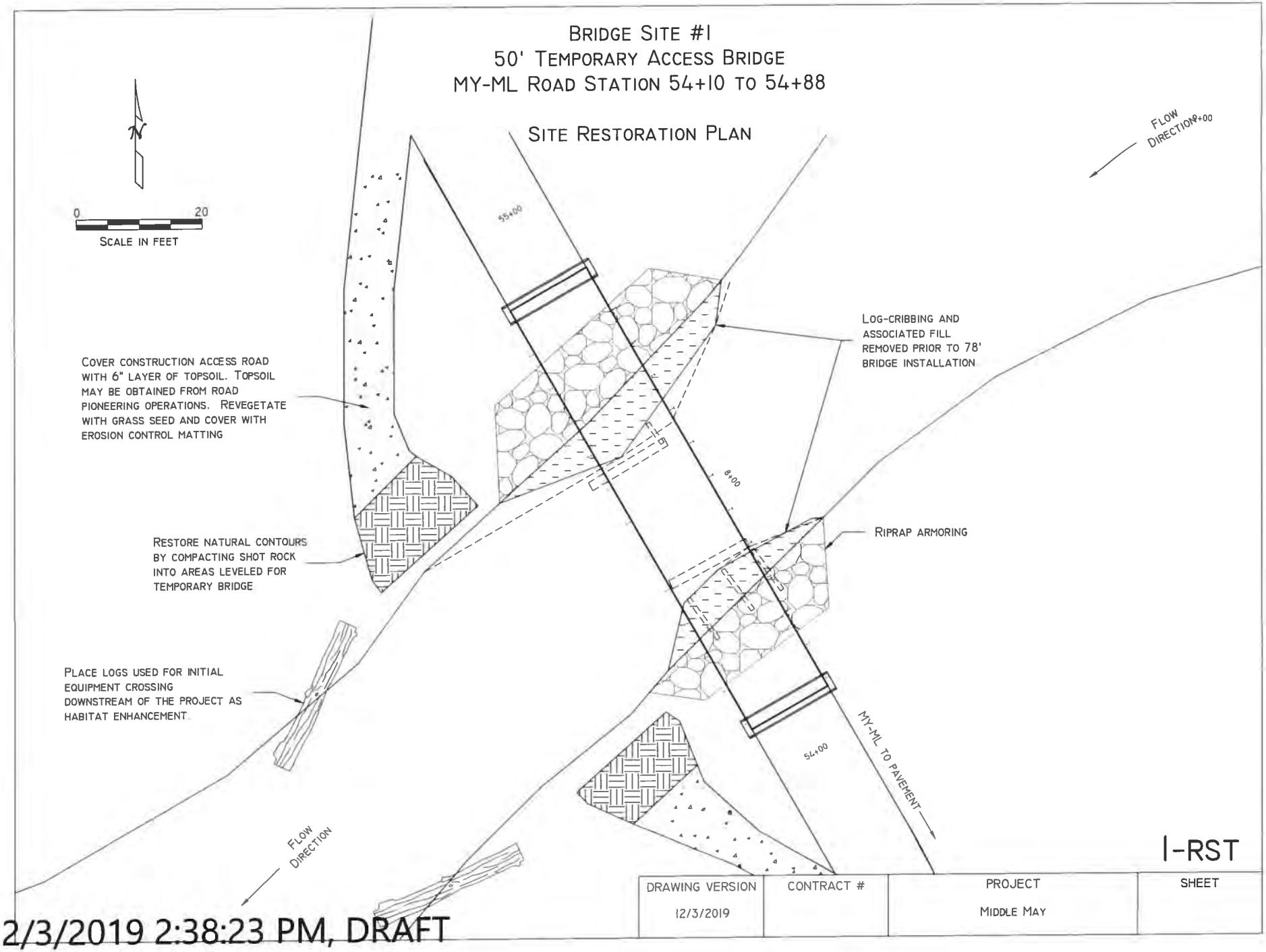
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

12/3/2019 2:38:18 PM, DRAFT

2817340

Bridge Site #1
50' Temporary Access Bridge
MY-ML Road Station 54+10 to 54+88

Site Restoration Plan



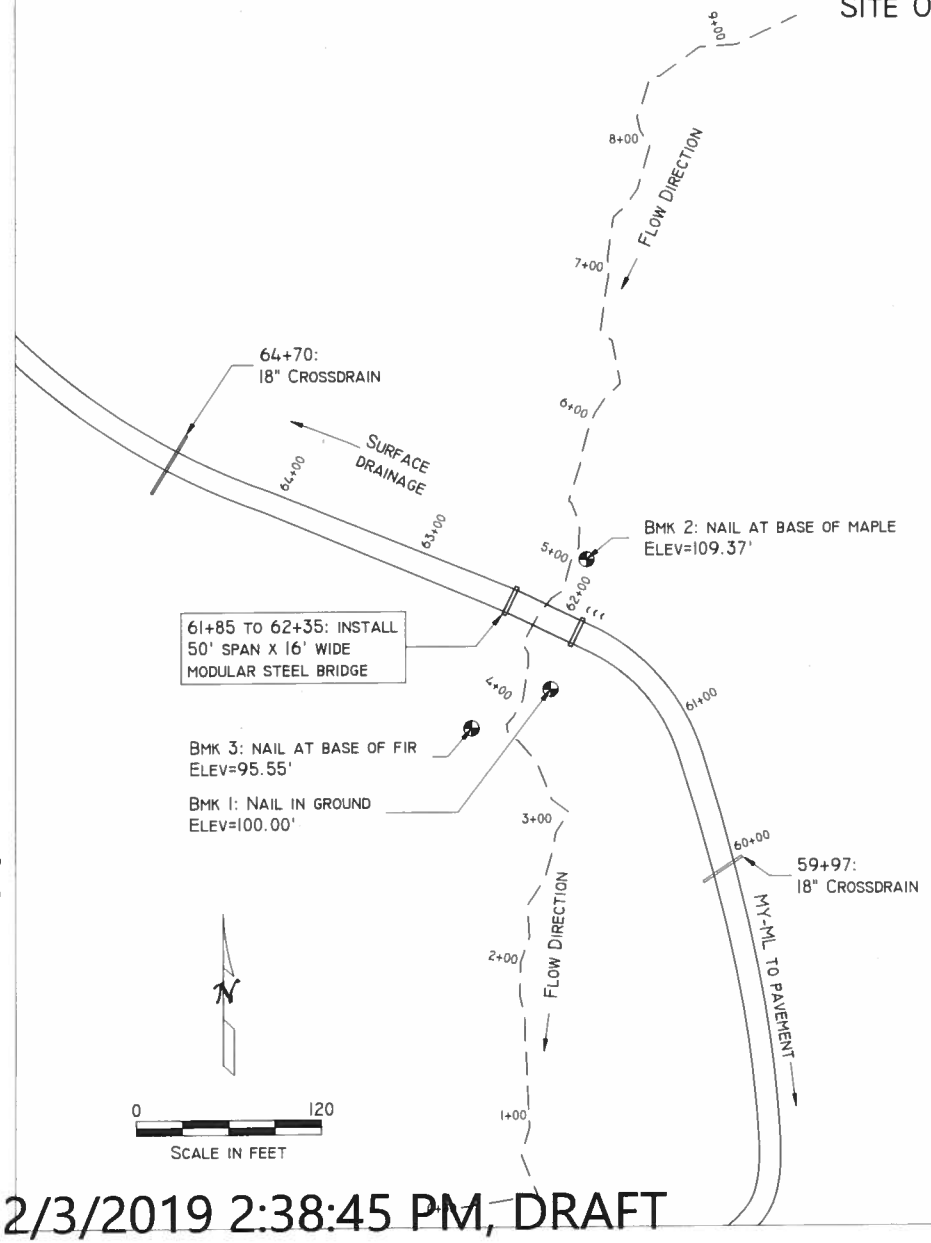
Drawing Version	Contract #	Project	Sheet
12/3/2019		Middle May	I-RST

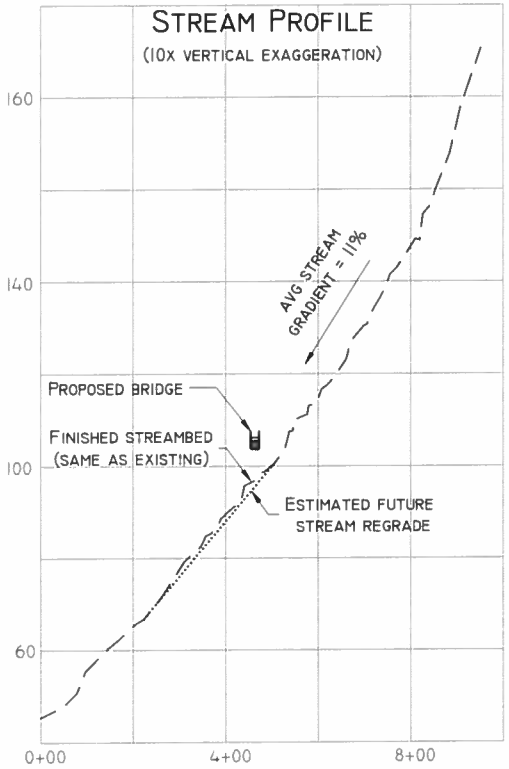
28173 40

12/3/2019 2:38:23 PM, DRAFT

BRIDGE SITE #2
50'x16' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 61+85 TO 62+35

SITE OVERVIEW





FPA NOTES:

1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 21', BASED ON 4 MEASUREMENTS NEAR THE STREAM CROSSING.
3. THE DESIGN PROVIDES 5' CLEARANCE ABOVE A Q100 WATER ELEVATION OF 98.2'.
4. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
5. LOCATION:
   MY-ML ROAD STATION 61+85 TO 62+35
   T27N R9E SEC3
   N47.85903, W121.63630

2-STE

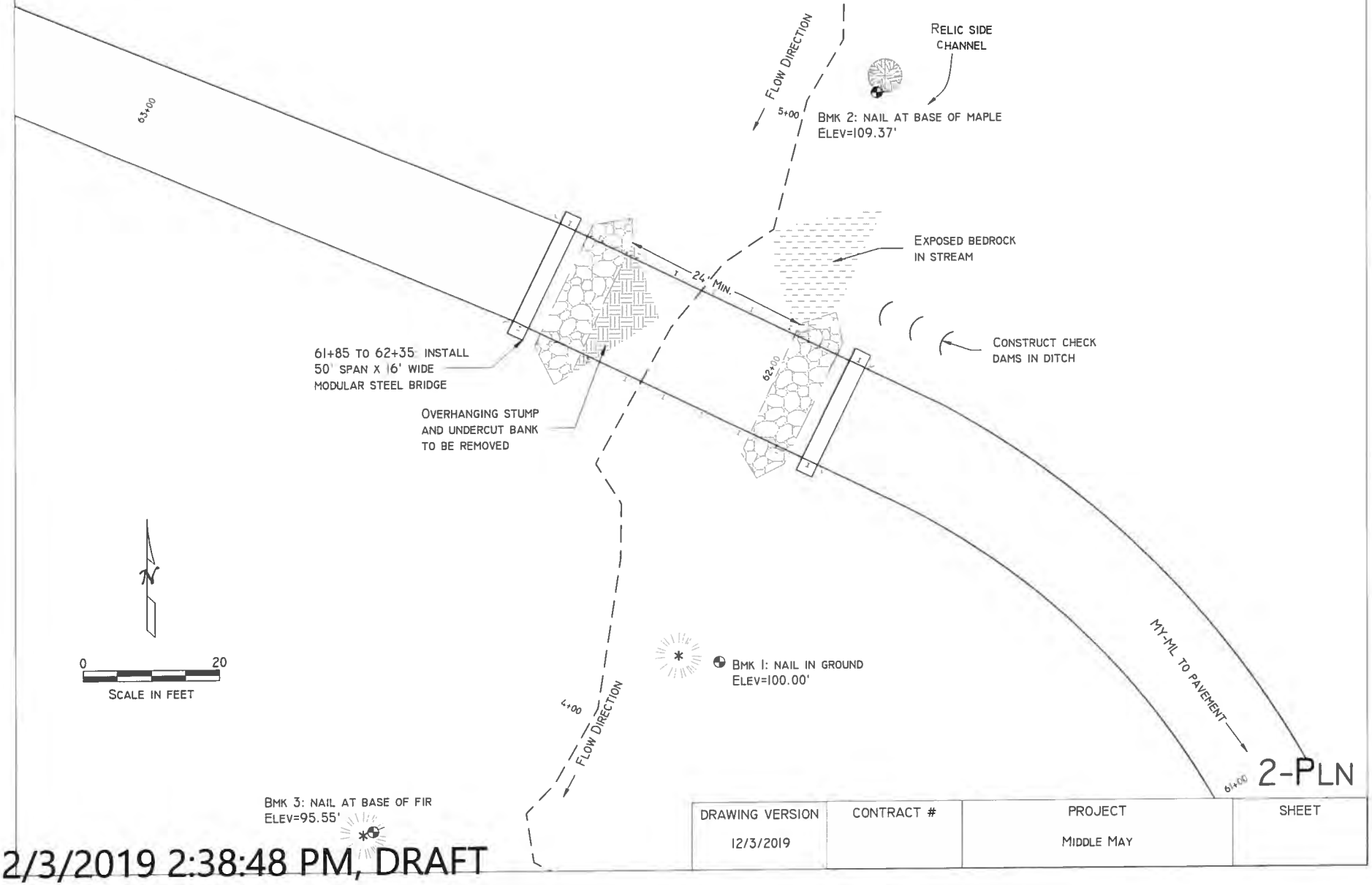
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

28173440

12/3/2019 2:38:45 PM, DRAFT

BRIDGE SITE #2
50'x16' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 61+85 TO 62+35

PLAN VIEW



2-PLN

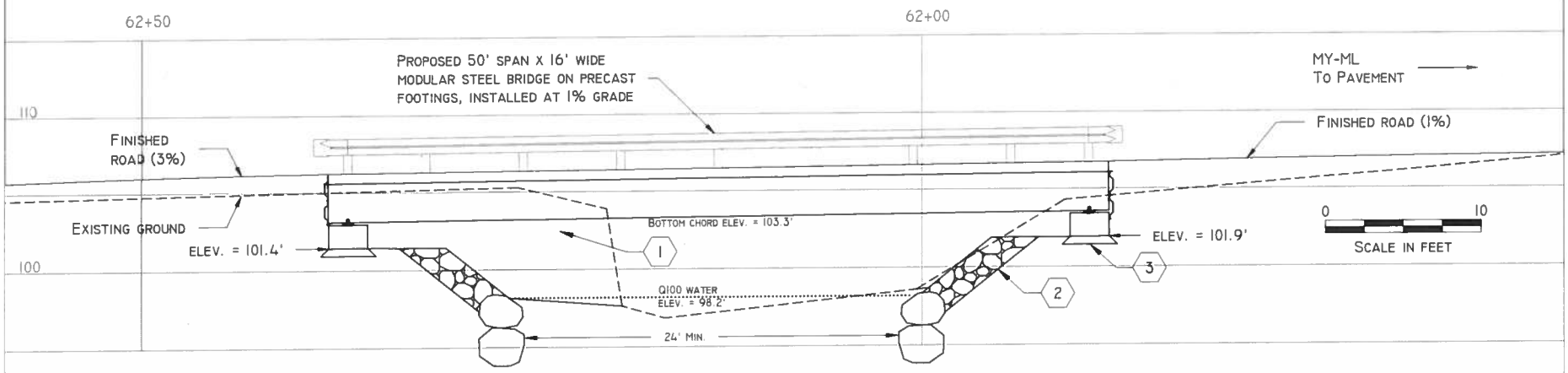
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

28178340

12/3/2019 2:38:48 PM, DRAFT

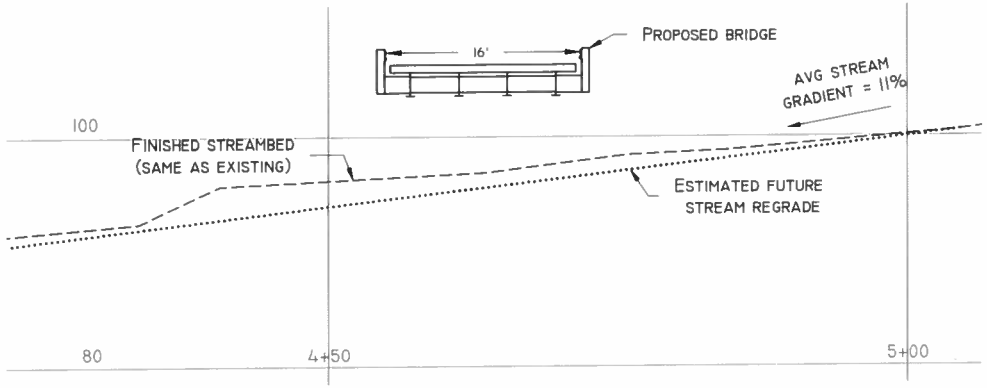
BRIDGE SITE #2
50'X16' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 61+85 TO 62+35

BRIDGE PROFILE - LOOKING UPSTREAM



BRIDGE SECTION

SCALE: 1:16



CONSTRUCTION NOTES:

1. OVERHANGING STUMP AND UNDERCUT BANK TO BE REMOVED
2. 3-FOOT THICK RIPRAP ARMORING AT 1:1 SLOPE RATIO. TOE ELEVATION SHALL BE A MINIMUM OF 3' BELOW EXISTING STREAMBED. CONSTRUCT WITH A MIX OF LIGHT AND HEAVY LOOSE RIPRAP
3. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF 1½"-MINUS CRUSHED ROCK AS LEVELING COURSE

CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

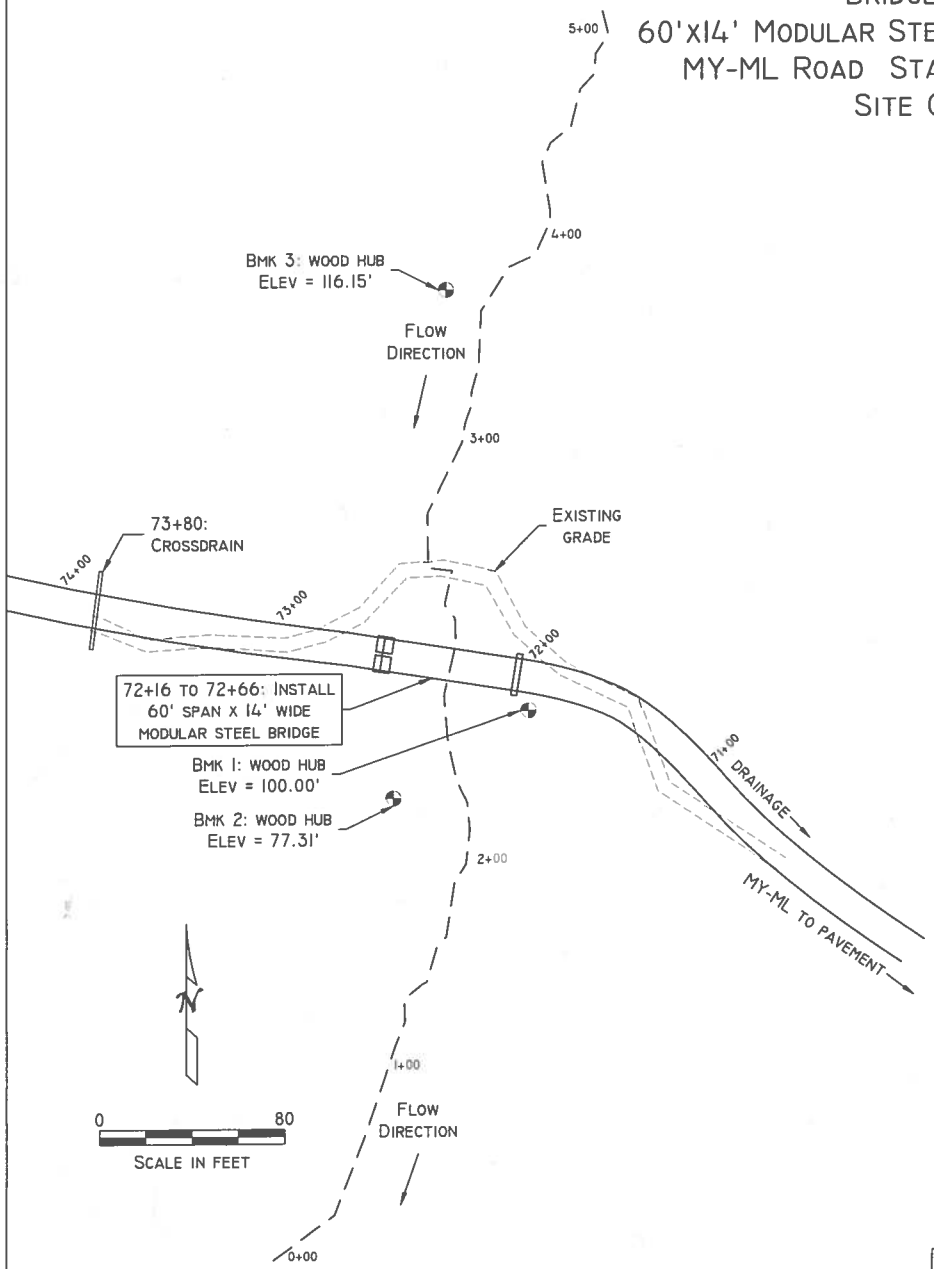
2-PRO

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

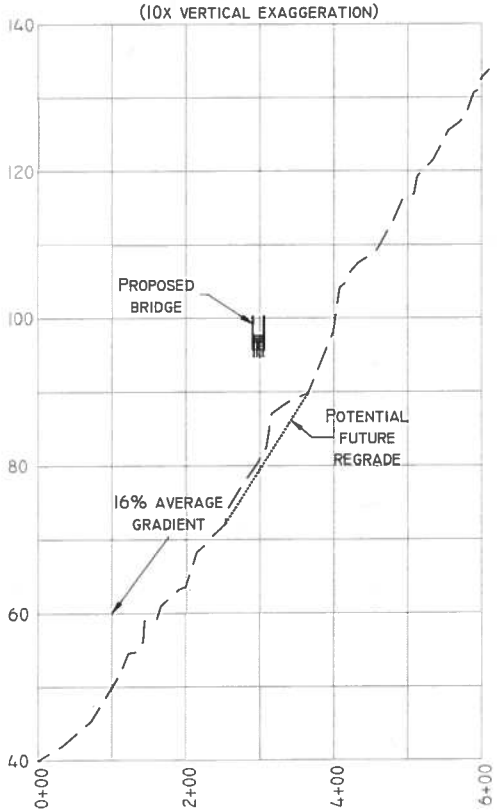
28173 40

12/3/2019 2:38:53 PM, DRAFT

BRIDGE SITE #3
60'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 72+11 TO 72+71
SITE OVERVIEW



STREAM PROFILE
(10X VERTICAL EXAGGERATION)



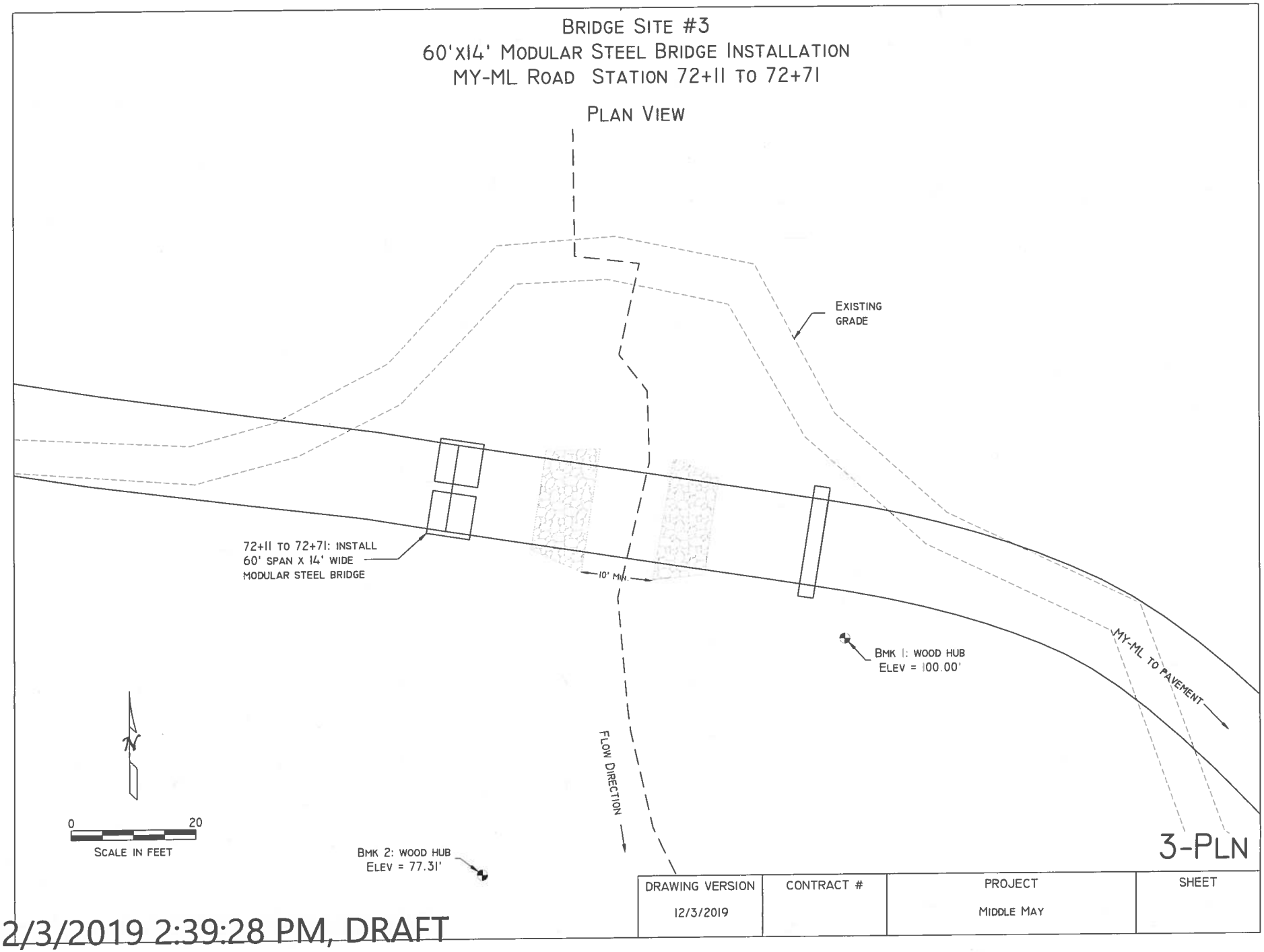
FPA NOTES:
1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 8.2', BASED ON 6 MEASUREMENTS UPSTREAM OF THE BRIDGE SITE.
3. THE DESIGN PROVIDES 12' CLEARANCE ABOVE A Q100 WATER ELEVATION OF 81.9'.
4. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
5. LOCATION:
   MY-ML ROAD STATION 72+11 TO 72+71
   T27N R9E SEC3
   N47.86070, W121.63955

3-STE

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

BRIDGE SITE #3
60'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 72+11 TO 72+71

PLAN VIEW



3-PLN

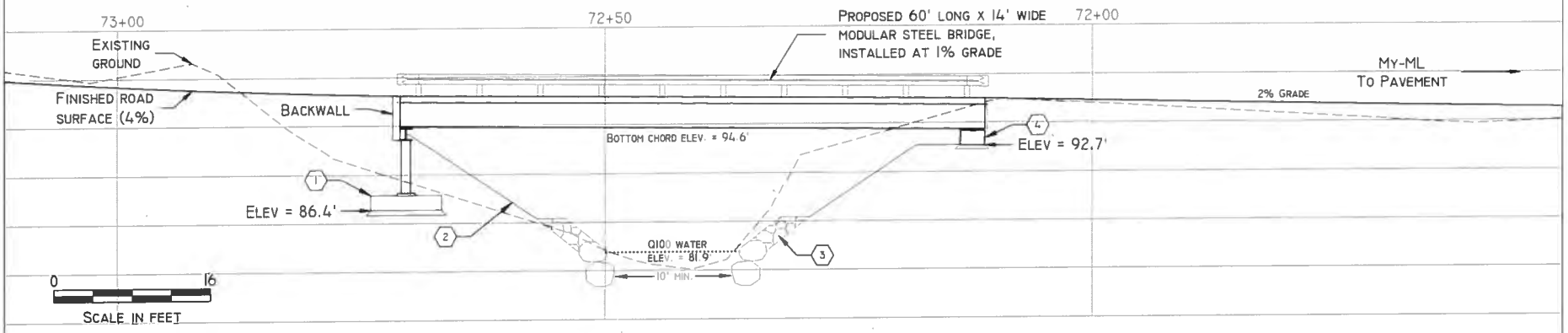
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

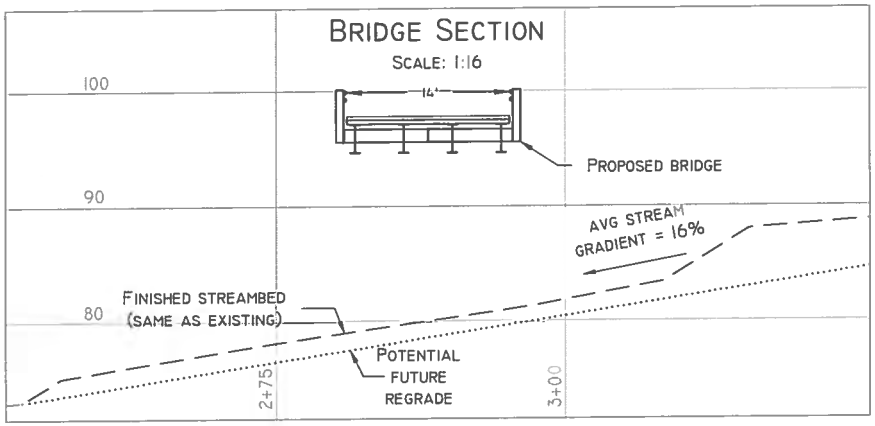
2817340

12/3/2019 2:39:28 PM, DRAFT

BRIDGE SITE #3
60'X14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 72+11 TO 72+71

BRIDGE PROFILE - LOOKING DOWNSTREAM





CONSTRUCTION NOTES:

1. PRECAST CONCRETE FOOTING WITH STEEL TOWER ASSEMBLY OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF ½"-MINUS CRUSHED ROCK AS LEVELING COURSE
2. COMPACTED NATIVE FILL AT FINISHED SLOPE OF ½:1
3. 3-FOOT THICK RIPRAP ARMORING AT ½:1 SLOPE RATIO COUNTERSINK TOE 3FT BELOW STREAMBED. CONSTRUCT WITH A MIX OF LIGHT AND HEAVY LOOSE RIPRAP
4. PRECAST CONCRETE FOOTING. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF ½"-MINUS CRUSHED ROCK AS LEVELING COURSE

CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

3-PRO

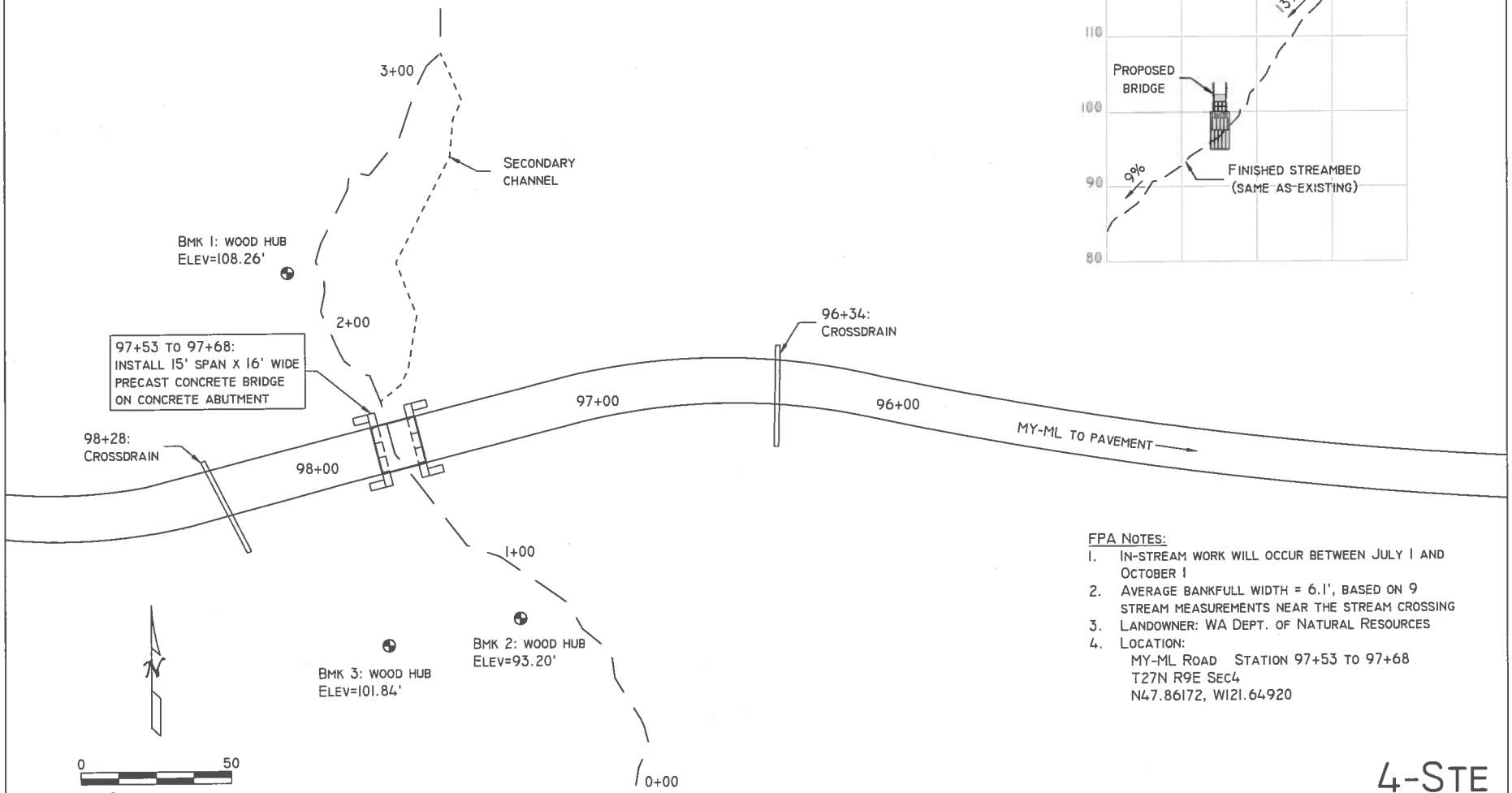
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

28173 40 - 3

12/3/2019 2:39:32 PM, DRAFT

BRIDGE SITE #4
15'X16' PRECAST CONCRETE BRIDGE INSTALLATION
MY-ML ROAD STATION 97+53 TO 97+68

SITE OVERVIEW



STREAM PROFILE
(10X VERTICAL EXAGGERATION)

FPA NOTES:
1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 6.1', BASED ON 9 STREAM MEASUREMENTS NEAR THE STREAM CROSSING
3. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
4. LOCATION:
   MY-ML ROAD STATION 97+53 TO 97+68
   T27N R9E SEC4
   N47.86172, W121.64920

4-STE

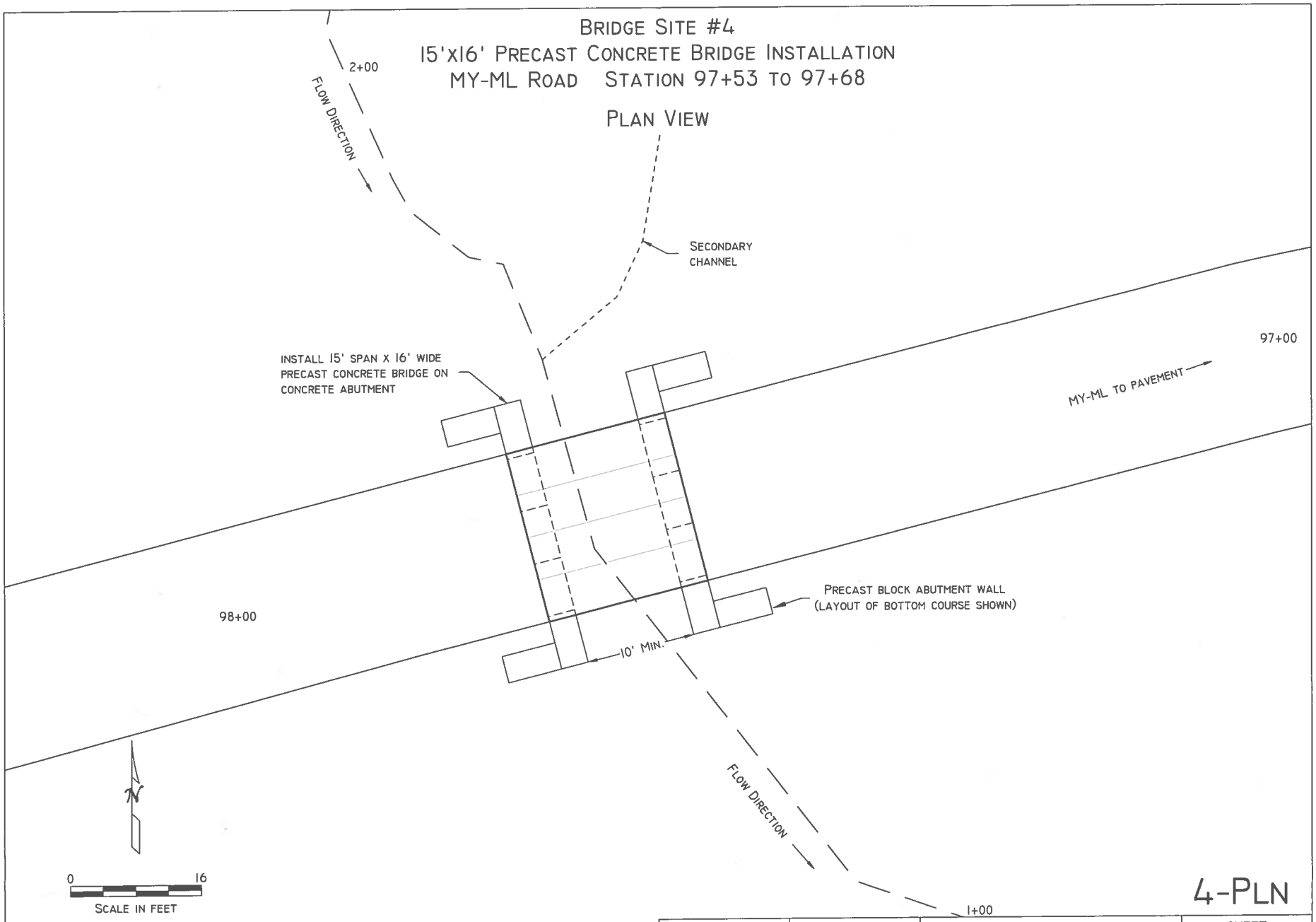
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

28173 40

12/3/2019 2:40:09 PM, DRAFT

BRIDGE SITE #4
15'x16' PRECAST CONCRETE BRIDGE INSTALLATION
MY-ML ROAD STATION 97+53 TO 97+68

PLAN VIEW

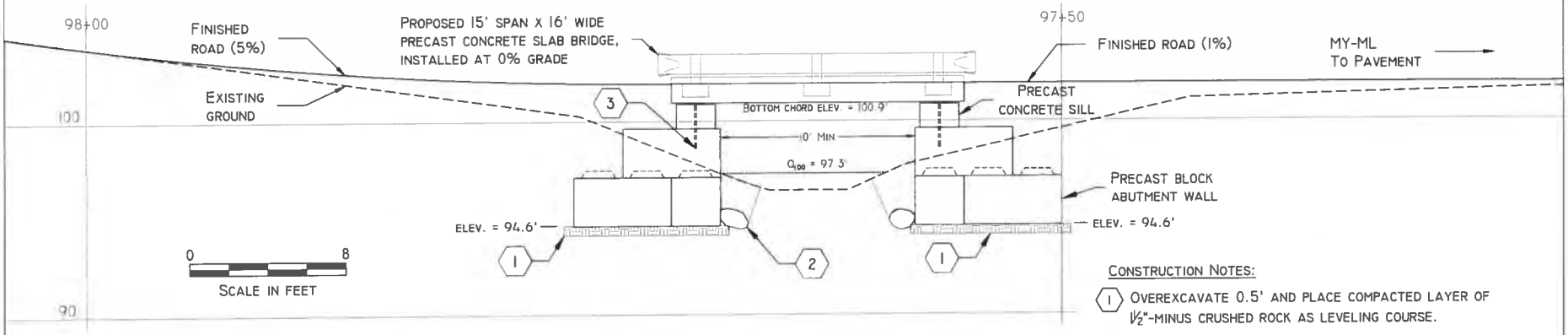


4-PLN

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

BRIDGE SITE #4
15'x16' PRECAST CONCRETE BRIDGE INSTALLATION
MY-ML ROAD STATION 97+53 TO 97+68

BRIDGE PROFILE - LOOKING UPSTREAM

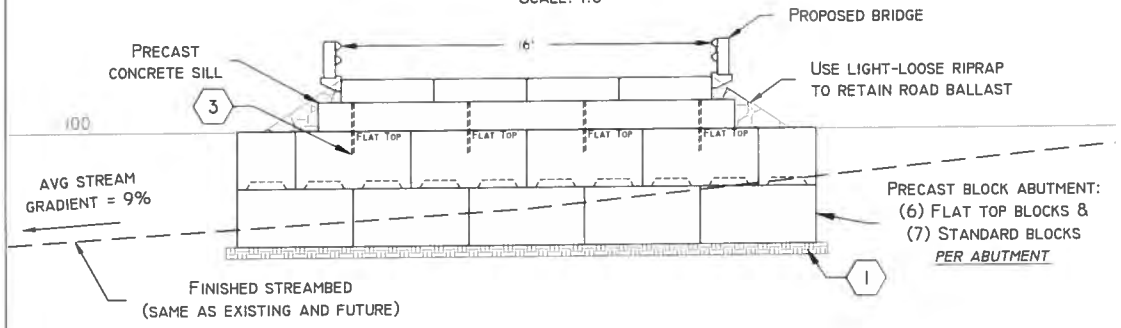


CONSTRUCTION NOTES:

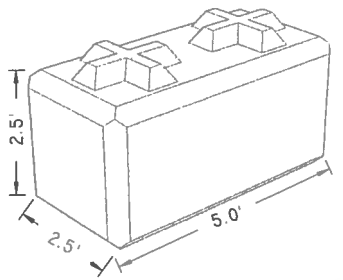
1. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF ½"-MINUS CRUSHED ROCK AS LEVELING COURSE.
2. ARMOR WALL WITH LIGHT-LOOSE RIPRAP. BACKFILL TO STREAM ELEVATION WITH A MIXTURE OF 50% PITRUN GRAVEL AND 50% COBBLE.
3. GROUT 1"x18" DRIFT PIN INTO ½" DIA HOLE, MIN. 1 PER BLOCK

   CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

BRIDGE SECTION
SCALE: 1:8



PRECAST BLOCK DETAIL
(STANDARD BLOCK WITH SHEAR-KEY SHOWN)

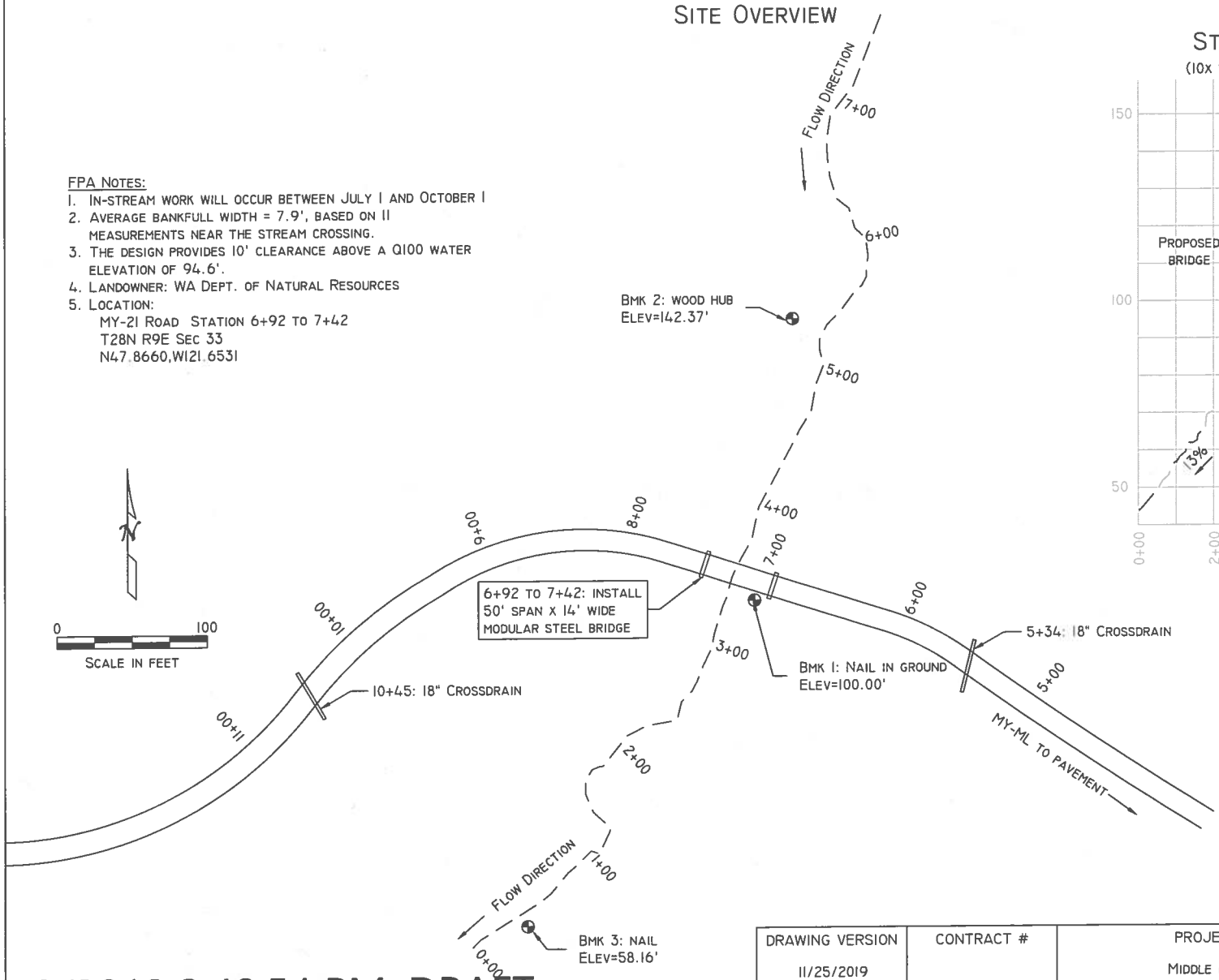


4-PRO

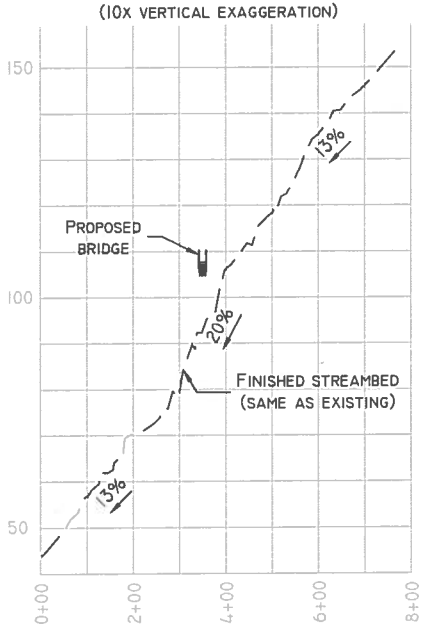
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019		MIDDLE MAY	

Bridge Site #5
50'x14' Modular Steel Bridge Installation
MY-21 Road Station 6+92 to 7+42

Site Overview



Stream Profile
(10x vertical exaggeration)



FPA Notes:
1. In-stream work will occur between July 1 and October 1
2. Average bankfull width = 7.9', based on 11 measurements near the stream crossing.
3. The design provides 10' clearance above a Q100 water elevation of 94.6'.
4. Landowner: WA Dept. of Natural Resources
5. Location:
   MY-21 Road Station 6+92 to 7+42
   T28N R9E Sec 33
   N47.8660,W121.6531

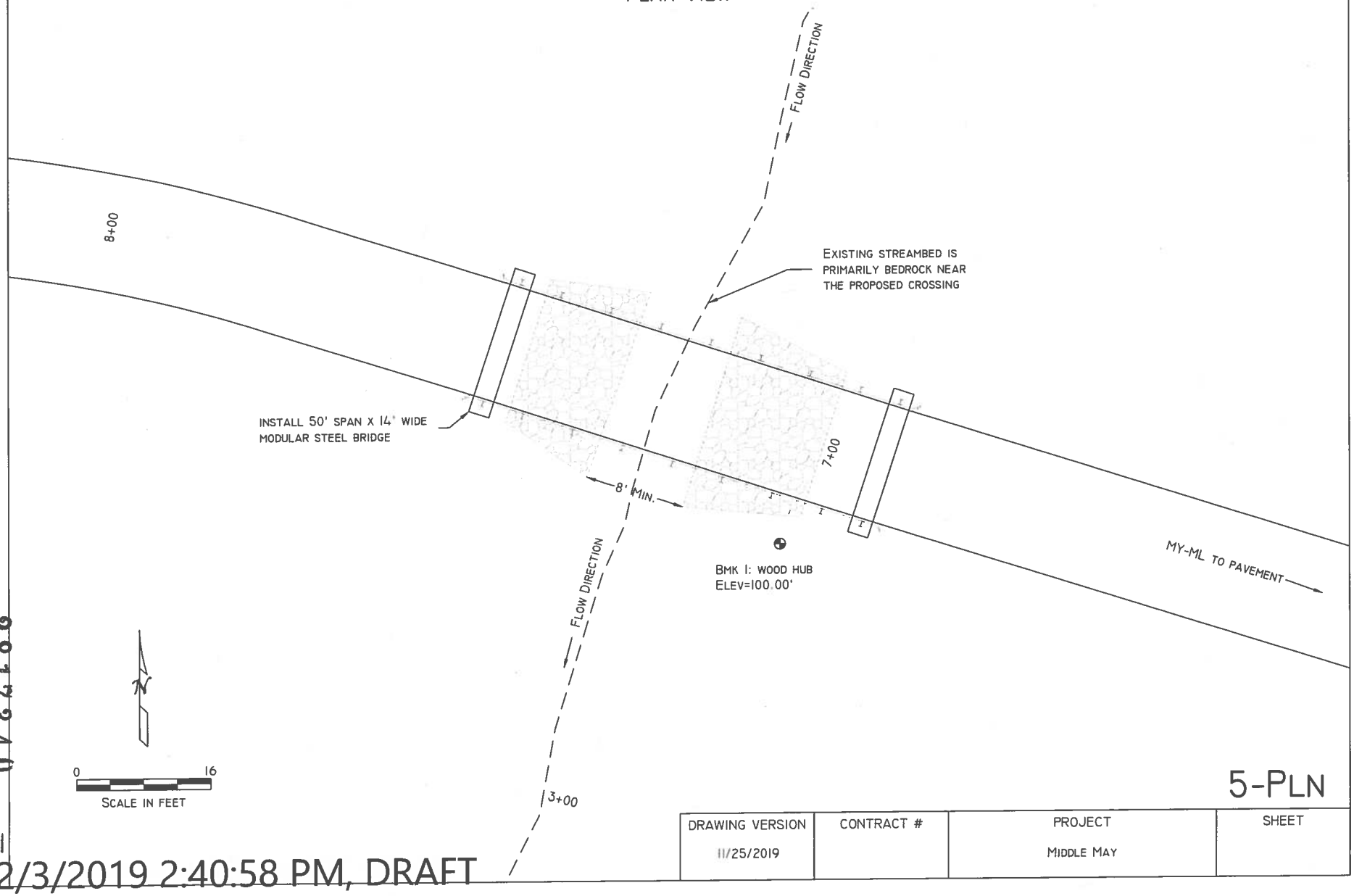
Drawing Version	Contract #	Project	Sheet
11/25/2019		Middle May	

5-Ste

12/3/2019 2:40:54 PM, DRAFT

BRIDGE SITE #5
50'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-21 ROAD STATION 6+92 TO 7+42

PLAN VIEW



5-PLN

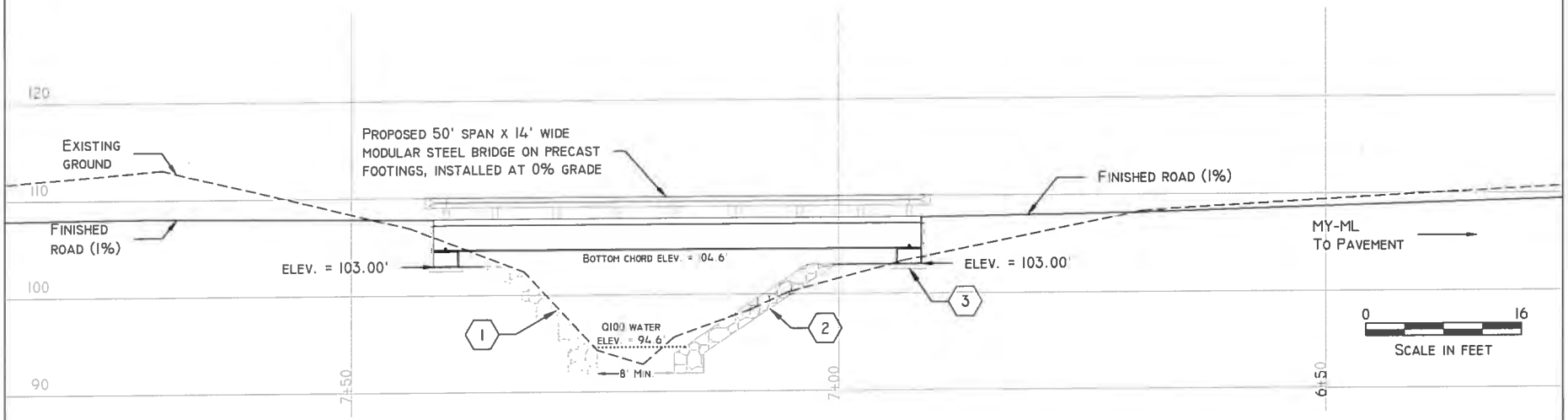
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
11/25/2019		MIDDLE MAY	

281783 40

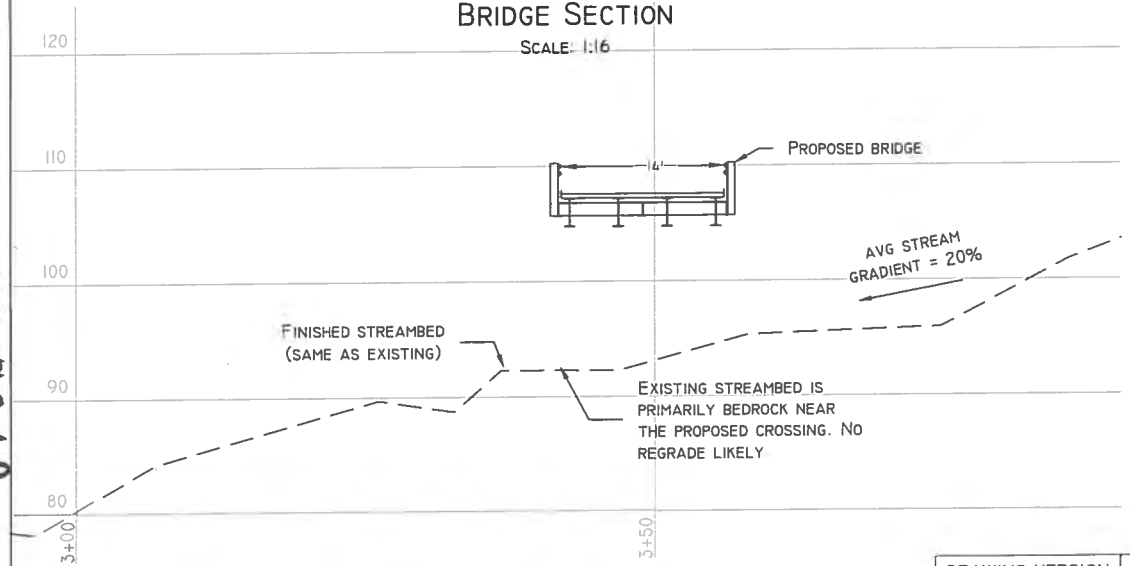
12/3/2019 2:40:58 PM, DRAFT

BRIDGE SITE #5
50'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-21 ROAD STATION 6+92 TO 7+42

BRIDGE PROFILE - LOOKING UPSTREAM



BRIDGE SECTION
SCALE: 1:16



CONSTRUCTION NOTES:

1. FAR-SIDE BANK IS EXPECTED TO BE COMPOSED OF BEDROCK. IF COMPETENT ROCK IS NOT PRESENT, ARMOR BANK WITH RIPRAP
2. 3-FOOT THICK RIPRAP ARMORING AT ½:1 SLOPE RATIO. TOE ELEVATION SHALL BE A MINIMUM OF 2' BELOW EXISTING STREAMBED. CONSTRUCT WITH A MIX OF LIGHT AND HEAVY LOOSE RIPRAP
3. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF ½"-MINUS CRUSHED ROCK AS LEVELING COURSE.

CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

5-PRO

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
11/25/2019		MIDDLE MAY	

2817340

Engineering Geologic Risk Assessment

Middle May Timber Sale

January 3, 2020

Prepared for:

Tyson Whiteid, Forester
Amy Halgren, Forest Engineer
Department of Natural Resources
Northwest Region

State of Washington
Engineering Geologist
2892
Licensed Geologist
1/3/2020
Jennifer Kathleen Parker

Prepared by:
Jennifer Parker, LEG #2892
Department of Natural Resources
Forest Resources Division

Table of Contents

Figures

1.0 Introduction

The proposed Middle May timber harvest is divided into three units within Department of Natural Resources (DNR) Reiter Foothills Forest (Figure 1). Parts of this proposal, including three of the proposed bridges, were included with the Singletary Forest Practices Application (FPA) #2813860. The DNR obtained a Shoreline permit (15-114333 SHOR) through Snohomish County to install Bridge 1 over May Creek. Bridges 2, 3, 4, and 5 are regulated under Forest Practices and Washington Department of Fish and Wildlife jurisdictions.

Washington's Forest Practices rules define potentially unstable landforms, commonly referred to as rule-identified landforms (RIL)[1], for purposes of classifying and reviewing forest practice applications and regulating in those areas. The right stream bank at Bridge 5 meets the definition of inner gorge slopes as described in the Washington Forest Practices Board Manual, Section 16[2] (Figures 2 and 3).

At our request, Josh Hardesty (Forest Practices Geologist) and Steven Huang (Forest Practices Forester) performed a pre-application field review of Bridges 2, 3, and 5. They concurred with my interpretation that the right bank at Bridge 5 is an inner gorge, and Bridges 2 and 3 do not have inner gorge topography (ICN #135622). Topography at Bridge 4 is low-relief and not an inner gorge. The inner gorge at Bridge 5 is the focus of this report. This report is intended to satisfy the requirements of a Class-IV-Special FPA. All other RILs have been bound out of the proposed sale. Refer to the road plan for road and bridge construction details.

2.0 Scope of Services

The scope of services included:

- Review of DNR GIS data including:
  - Digital orthophotographs from the 1990s, 2002, 2006, 2009, 2011, 2013, 2015, 2017.
  - Light detection and ranging (LiDAR) data.
  - 1:100,000-scale geologic map (Figure 4).[3]
  - Forest Practices Landslide Inventory (LSI) mapping is not available for the area.
  - Forest Practices Landslide Hazard Zonation mapping is not available for the area.
- Review of available historical aerial photographs from 1942, 1954, 1957, 1969 (1 photo), 1974, 1975, 1978, 1983.
- Review of the engineering geologic letter report prepared for the Singletary Timber

[1] WAC 222-16-050 (1)(d)(i)
[2] Washington Forest Practices Board Manual, 2016, Section 16, Guidelines for evaluating potentially unstable slopes and landforms, Washington Department of Natural Resources, Olympia, Washington.
[3] Tabor, R.W., Frizzell, V.A., Booth, D.B., Waitt, R.B., Whetten, J.T., and Zartman, R.E, 1993, Geologic map of the Skykomish River 30- by 60-minute quadrangle, Washington, U.S. Geological Survey, miscellaneous investigations series map I-1963, U.S. Department of the Interior.

Sale.[4]

- Field reconnaissance on September 4, 2019 by Jennifer Parker (LEG, QE), Amy Halgren (Forest Engineer), and Tyson Whiteid (Forester).
- Field reconnaissance on September 24, 2019 by Jennifer Parker and Tyson Whiteid.
- Pre-application Forest Practices field review on October 25, 2019 by Josh Hardesty (Forest Practices Geologist), Steve Huang (Forest Practices Forester), Jennifer Parker, Tyson Whiteid, Amy Halgren, and John Moon (Unit Forester).
- Pre-application Forest Practices field review on November 20, 2019 by Josh Hardesty, Steve Huang, Jennifer Parker, Tyson Whiteid, Derek Marks and Neil Shea (Tulalip Tribe).
- Preparation of this report.

Jennifer Parker (LEG #2892) is a "qualified expert" for timberland slope stability evaluation, as designated by the DNR.

3.0 Geologic Setting

The published 1:100,000-scale geologic map[5] for the area indicates that the proposed sale is underlain by western mélange belt marine metasedimentary rocks (KJmm(wk), KJmm(w)) (Figure 4). I observed fine grained metamorphic rocks exposed in the stream channel and right bank at the proposed Bridge 5 location.

4.0 Inner Gorge Crossing – Bridge 5

The Forest Practices Board Manual, Section 16[6] describes inner gorges as canyons created by stream incision and mass movement. They are steeper than 70% and are a minimum 10 vertical feet in height. Stream A's right bank at Bridge 5 has topography that fits the inner gorge definition (Table 1). The stream is in a natural, bedrock-lined channel. There is an approximately 6-foot tall waterfall within the right of way, but upstream of the bridge. The left bank is steep and vegetated (Table 4; Photograph 1).

Stream A initiates from a wetland and flows across a bedrock knob. I did not observe evidence of debris flows within this channel in the aerial imagery or evidence of debris flow deposits in the stream reaches reviewed in the field (Figures 5 through 11).

---

[4] McKenzie, John, 2014, Engineering geologic letter report, proposed haul road stream crossing/bridge replacement, May Creek, Singletary Timber Sale: Department of Natural Resources, 10 p.
[5] Tabor, R.W., Frizzell, V.A., Booth, D.B., Waitt, R.B., Whetten, J.T., and Zartman, R.E, 1993, Geologic map of the Skykomish River 30- by 60-minute quadrangle, Washington, U.S. Geological Survey, miscellaneous investigations series map I-1963, U.S. Department of the Interior.
[6] Washington Forest Practices Board Manual, 2016, Section 16, Guidelines for evaluating potentially unstable slopes and landforms, Washington Department of Natural Resources, Olympia, Washington.

Photograph 1: View looks upstream at the proposed Bridge 5 crossing. Bedrock is visible in the stream channel.

Table 1: Channel geometry at proposed Bridge 5.

Stream bank (looking downstream)	Approximate Slope Angle	Approximate Slope Height	Substrate
Right Bank at proposed bridge	100% to vertical	13 feet	Vegetated bedrock slope
Left Bank at proposed bridge	Stepped, variable slope	4 feet	Vegetated, forest duff. Did not observe bedrock in the left bank.

A 50-foot steel modular bridge is planned at this location. Fill will not be placed within the channel. The inner gorge slope is expected to be bedrock because it is exposed in the lower approximately 4 feet of the right bank. If there are places where bedrock is not encountered during bridge construction, the bank will be armored with riprap. Riprap will armor the right bank.

The right-of-way and centerline were marked in the field prior to the Forest Practices pre-application field review. The group agreed that the proposed bridge and road construction has a low likelihood to cause movement or deliver sediment to Stream A.

5.0 Forest Practice Rule Statements

The following are the required Forest Practice Rule statements addressing WAC 222-10-030 (1) (a,b,c). These responses are based on the data and discussion presented above.

(a) The likelihood that the proposed forest practices will cause movement on the potentially unstable slopes or landforms, or contribute to further movement of a potentially unstable slope or landform.

We did not observe evidence of debris flow activity in the site vicinity in the historic aerial imagery, nor did we observe evidence of shallow landslide activity on the inner gorge slope within the right-of-way. Fill will not be placed within the channel. If there are places where bedrock is not encountered during bridge construction, the bank will be armored with riprap. Riprap will armor the right bank. Therefore, it is unlikely that the proposed forest practices will cause or contribute to movement on the inner gorge slopes.

(b) The likelihood of delivery of sediment or debris to a public resource, or in a manner that would threaten public safety:

The right bank channel sidewall has exposed, competent bedrock. Shallow, local soil accumulations within the inner gorge may intermittently erode and seasonally deliver sediment to the stream. However, there is a low likelihood that the proposed road construction will result in shallow landslides that deliver sediment to Stream A.

(c) Any possible mitigation for the identified hazards and risks:

The primary mitigation for the identified hazards and risks is avoidance. The bridge spans the channel and no fill will be placed within the stream bed. If soil instead of bedrock is encountered during bridge construction, the soil will be armored with rip rap.

6.0 Assessment Limitations

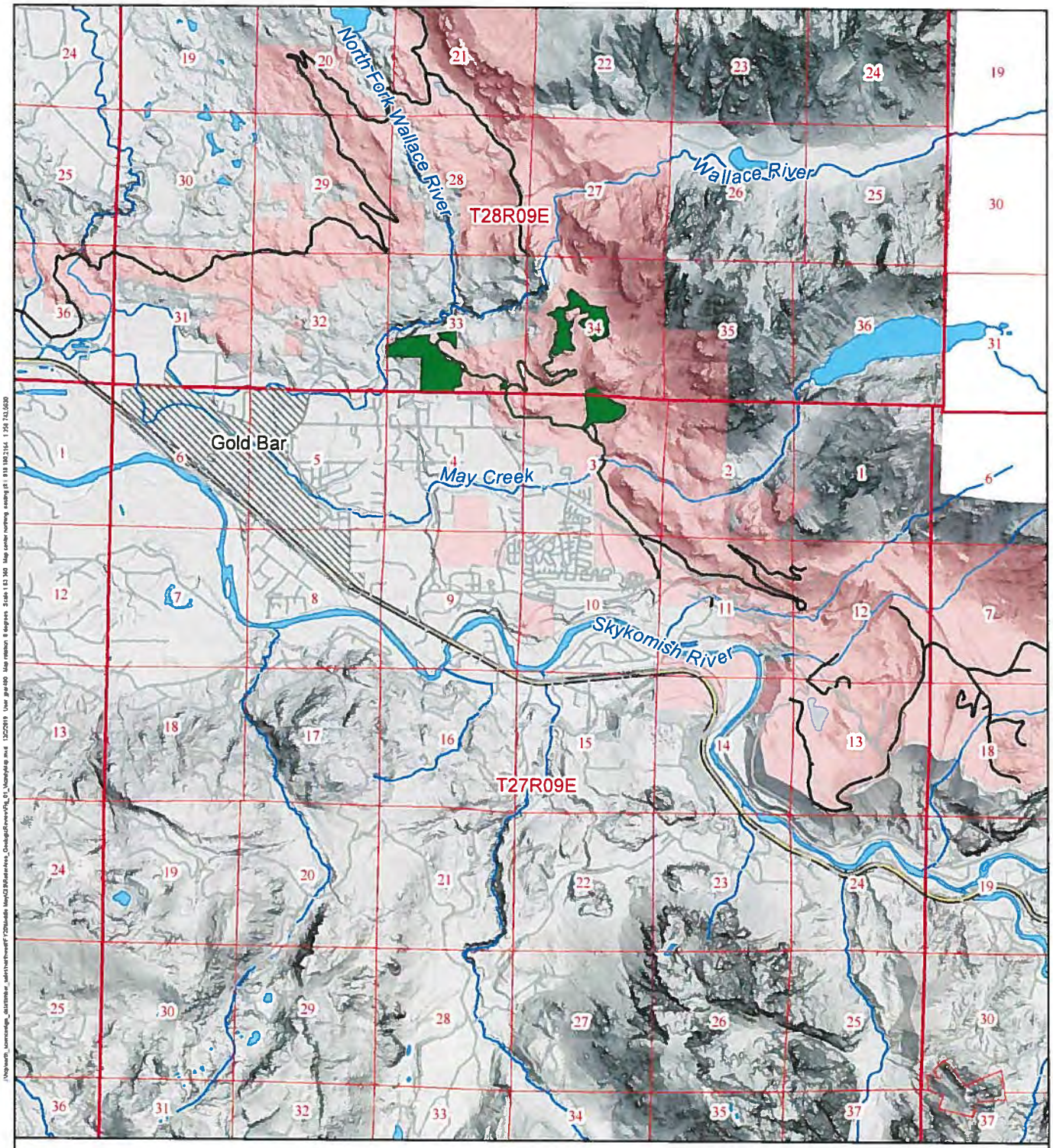
This report is intended to be submitted with the forest practices application (FPA) for the Middle May timber harvest to meet the requirements of a Class IV-special classification and to document licensed engineering geologist/qualified expert involvement in the road design. Mitigations presented in this report were developed collaboratively with the sale foresters and District Engineer. The conclusions presented in this report are based on observed site conditions as they existed at the time of the field visits. Site conditions can change with time and additional geologic information may become available. If this occurs, our geologic interpretations and recommendations may require modification. It is not possible to fully define the geologic conditions of the site based on this limited investigation; however, the work was performed using practices consistent with geologic and geotechnical industry standards in the region for forest

slope stability. It is not possible to predict slope movement with certainty with the available scientific knowledge.

If any changes in the proposed FPA or road plan are formulated or carried out differently in the field than currently proposed, our conclusions and recommendations shall not be considered valid unless those changes are reviewed in writing by the author or author's representative.

7.0 Geologist Qualifications

Jennifer Parker has a Bachelor of Arts degree, (2003) from Whitman College, Walla Walla, Washington in Geology and Environmental Studies and a Master of Science degree (2007) from the University of New Mexico, Albuquerque, NM, with an emphasis on geomorphology. Her academic research involved mapping fire-related debris-flow deposits in the Sacramento Mountains, New Mexico. Previous work experience includes working as an engineering geologist for Shannon & Wilson, Inc. (2007-2016). She has been employed by the Forest Resources Division of the Washington Department of Natural Resources since January 2017. Her work with the agency is related to slope stability assessments of proposed land management activities. Ms. Parker is a Licensed Engineering Geologist (LEG #2892) in the state of Washington and meets the definition of a "qualified expert" as outlined in WAC 222-10-030(5).



Legend

- Harvest Unit Boundary
- DNR-Managed Lands
- City Limits (Census 2010)
- U.S. Hwy.
- Township
- Section
- Water Bodies, All
- Stream

Fig. 1

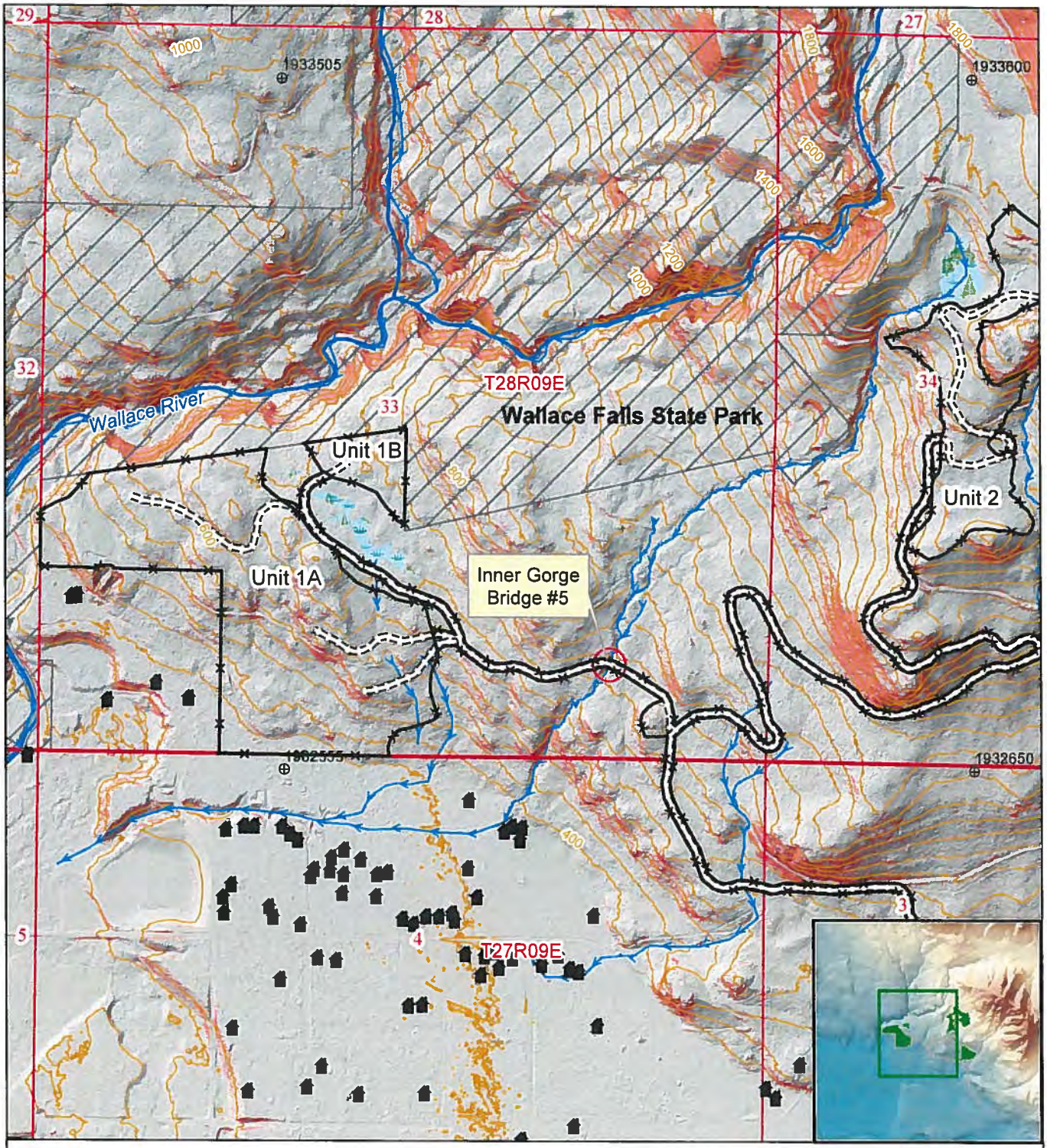
VICINITY MAP

Middle May Timber Harvest

5,250 Ft.

Scale 1:63,360

Washington State Department of Natural Resources

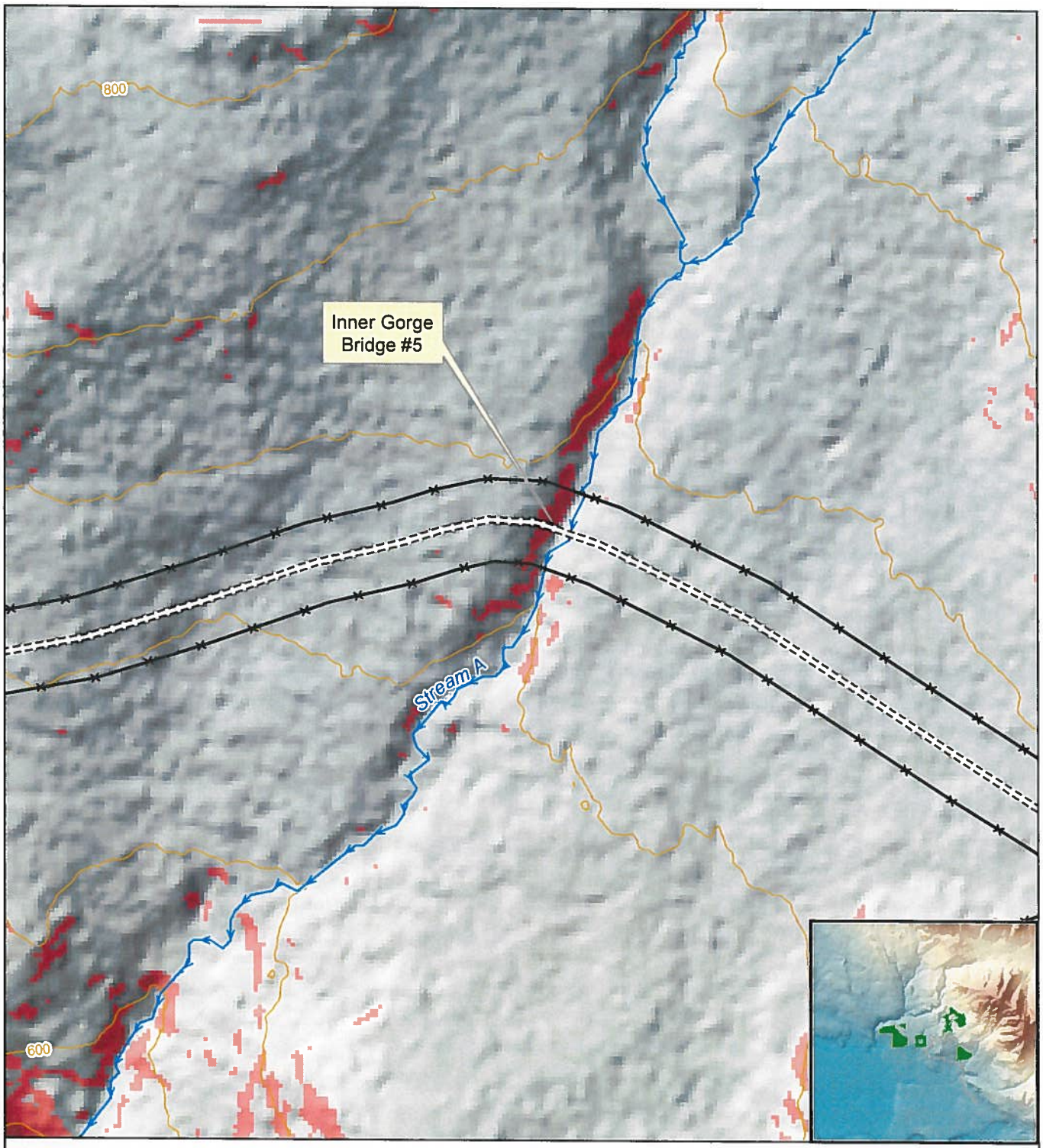


Legend

- Harvest Unit Boundary
- Forester-delineated stream
- Major Stream
- Forester-delineated wetland
- Proposed Roads
- Structures*
- Township
- Section
- Wallace Falls State Park
- 40-ft. Contour
- Slope 0 - 70%
- Slope >70%
- Tics - 5000' Interval

*Note: Structure locations were approximately mapped using a 2018 orthophotograph.

Fig. 2	SITE MAP Middle May Timber Sale	1,000 Ft. Scale 1:12,000 Washington State Department of Natural Resources	N



Legend

- Right-of-Way
- Forester-delineated stream
- Proposed Roads
- Slope 0 - 70%
- Slope >70%
- 40-ft. Contour

Fig. 3

BRIDGE #5 SITE MAP

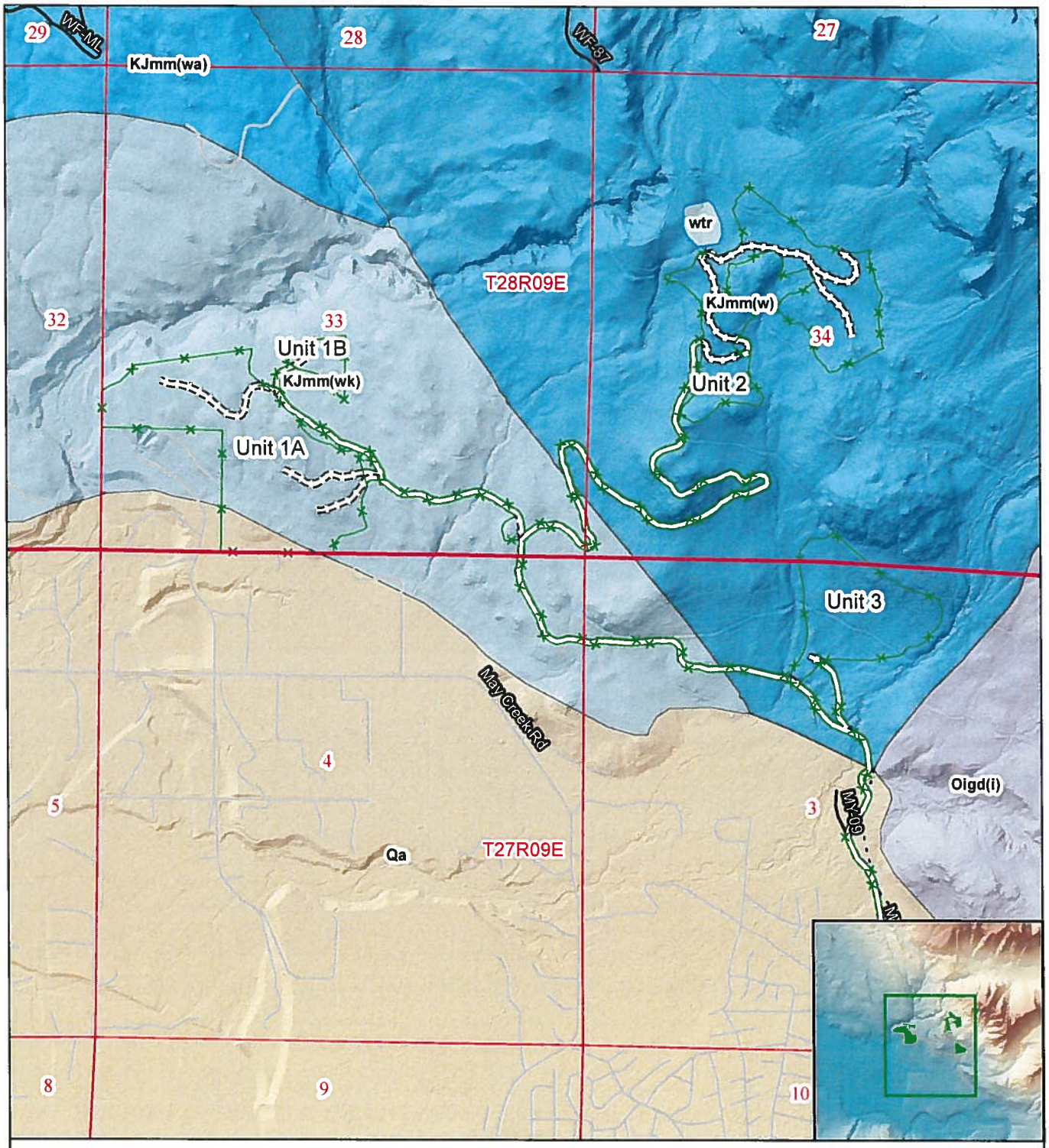
Middle May Timber Sale

100 Ft.

Scale 1:1,200

Washington State Department of Natural Resources

N



Legend

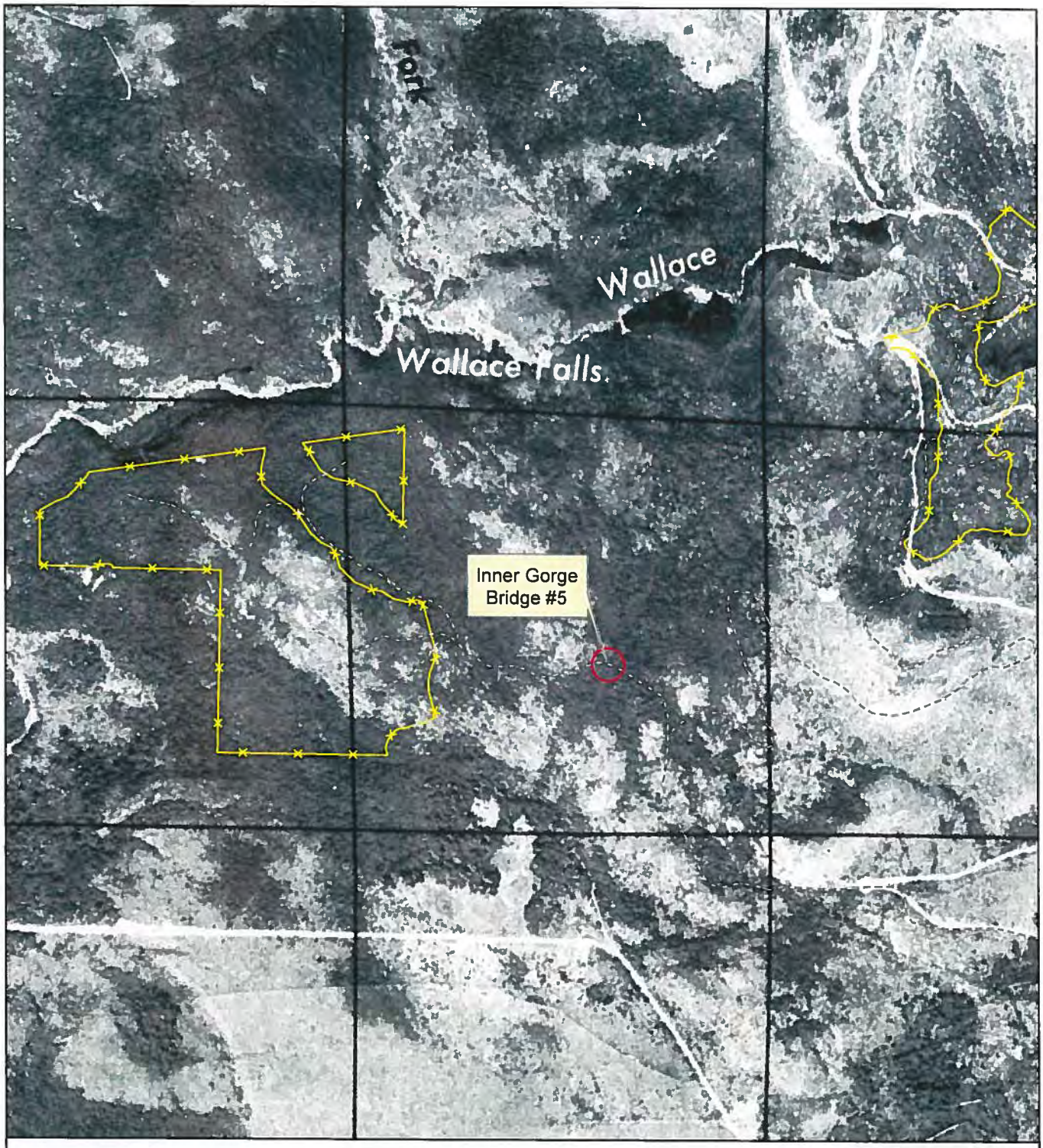
- Harvest Unit Boundary
- Proposed Roads

Geologic Units 100K

- KJmm(w) - marine metasedimentary rocks
- KJmm(wa) - marine metasedimentary rocks
- KJmm(wk) - marine metasedimentary rocks
- Oigd(i) - Index batholith granodiorite
- Qa - alluvium
- wtr - water

Modified from: Tabor, R.W., Frizzell, V.A., Booth, D.B., Waitt, R.B., Whetten, J.T., and Zartman, R.E. 1993. Geologic map of the Skykomish River 30- by 60-minute quadrangle, Washington. U.S. Geological Survey miscellaneous investigations series map I-1963, U.S. Department of the Interior.

Fig. 4	**GEOLOGIC MAP** Middle May Timber Sale	1,500 Ft. Scale 1:18,000 Washington State Department of Natural Resources	N



Legend

Harvest Unit Boundary

Proposed Roads

Fig. 5

1942 AERIAL IMAGERY

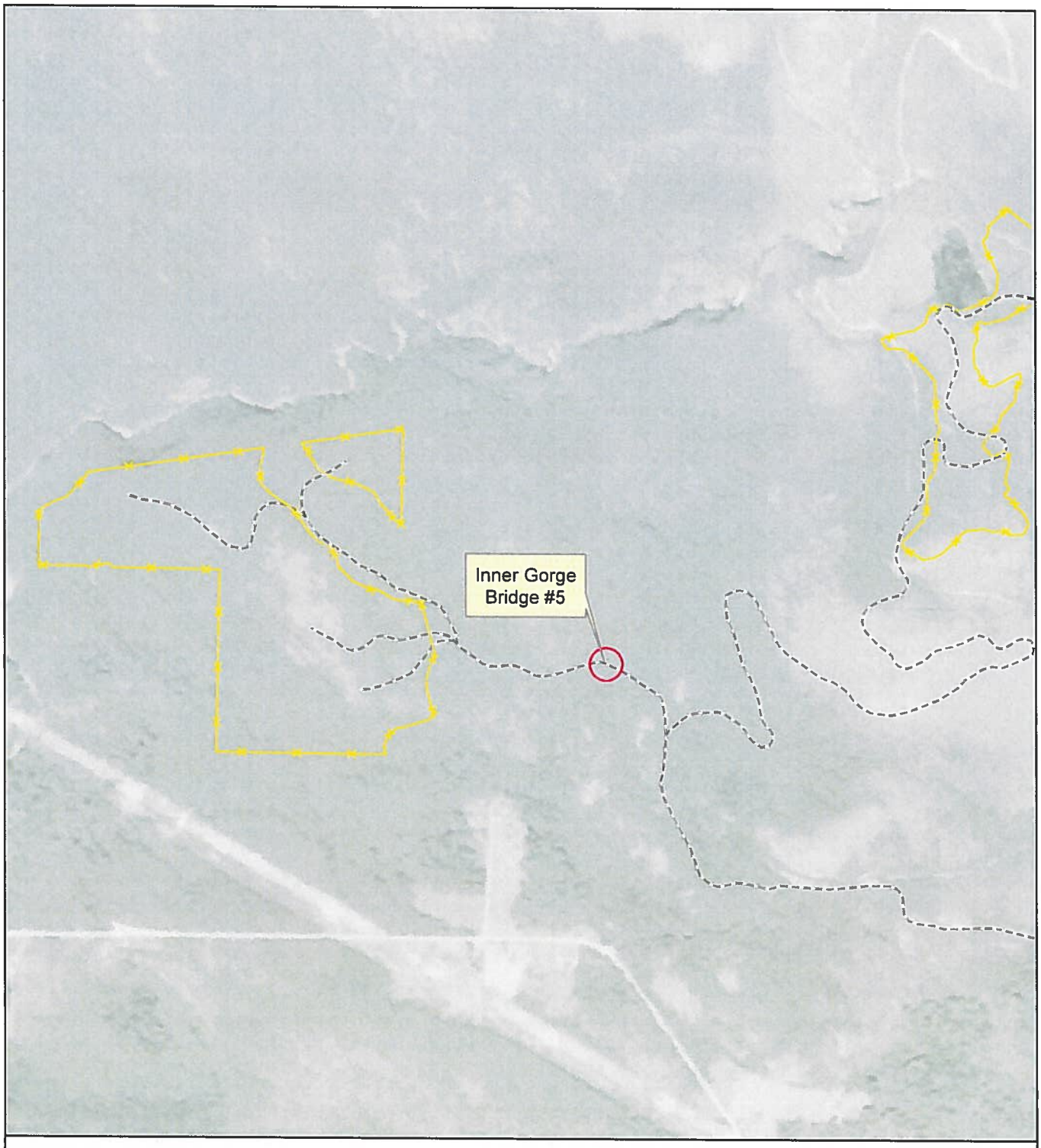
Middle May Timber Harvest

1,000 Ft.

Scale 1:12,000

Washington State Department of Natural Resources

N



Legend

Harvest Unit Boundary

Proposed Roads

Fig. 6

1954 AERIAL IMAGERY

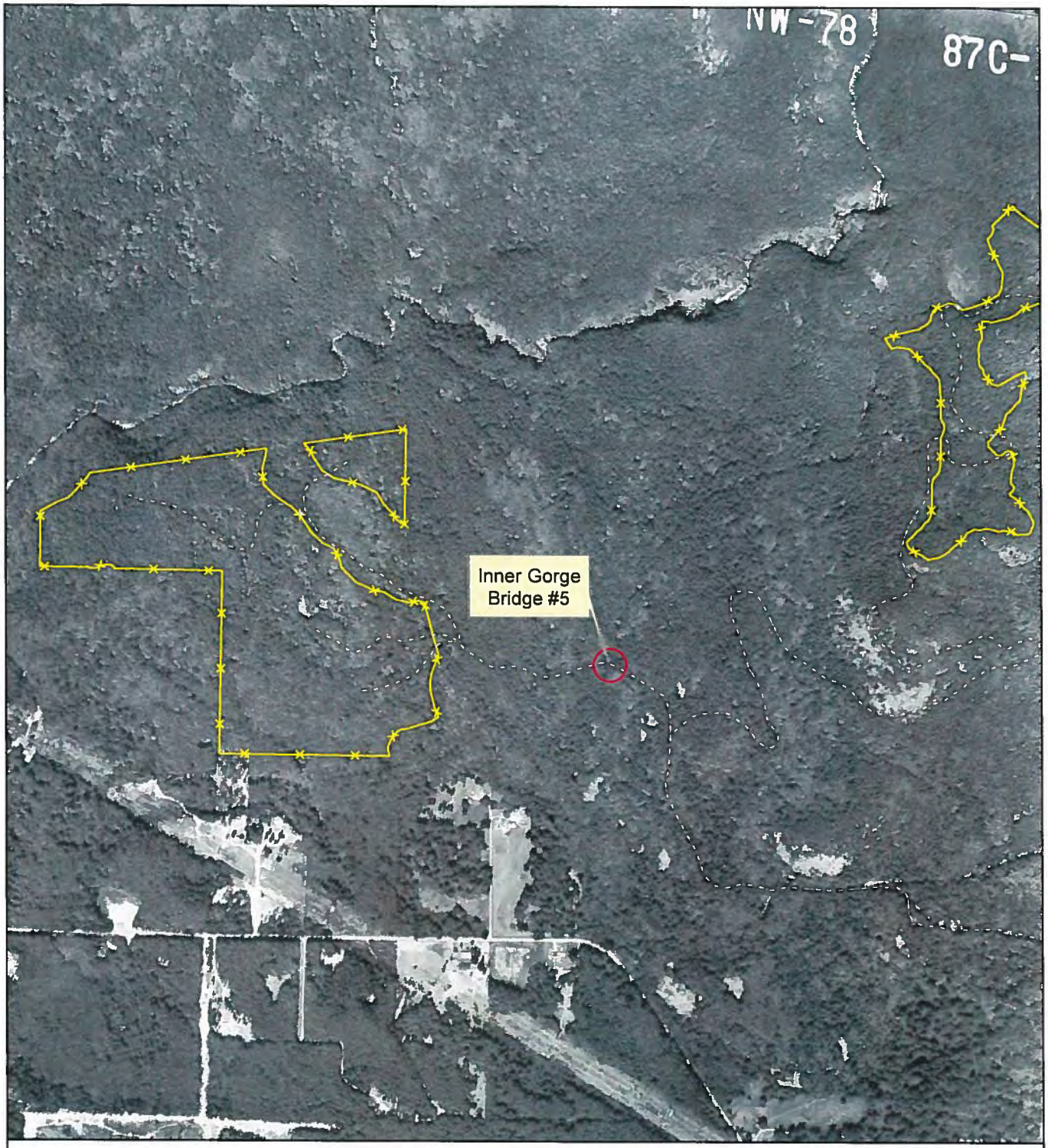
Middle May Timber Harvest

1,000 Ft.

Scale 1:12,000

Washington State Department of Natural Resources

N

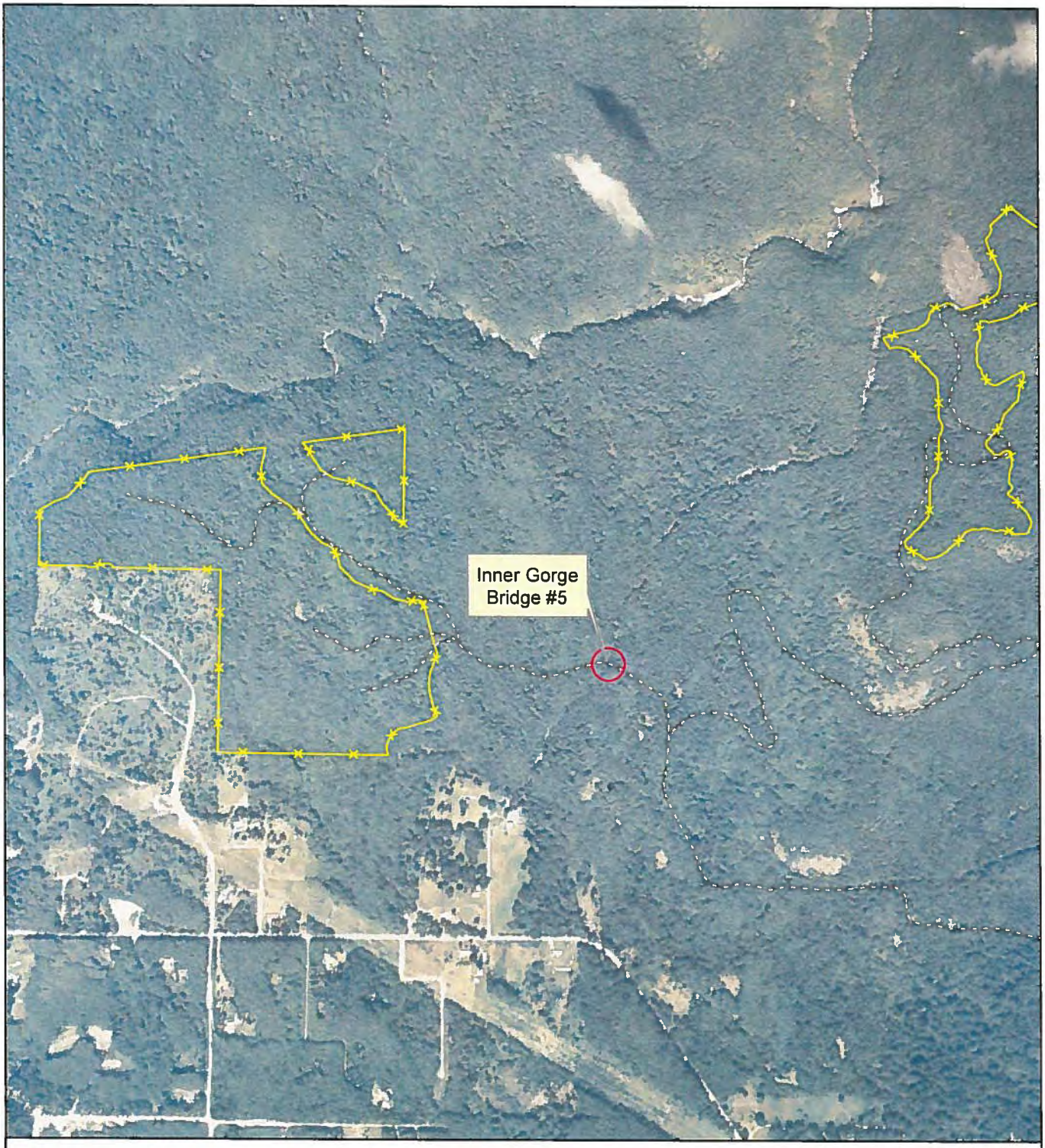


Legend

Harvest Unit Boundary

Proposed Roads

Fig. 7	**1978 AERIAL IMAGERY** Middle May Timber Harvest	1,000 Ft. Scale 1:12,000 Washington State Department of Natural Resources	N



Legend

Harvest Unit Boundary

Proposed Roads

Fig. 8

1983 AERIAL IMAGERY

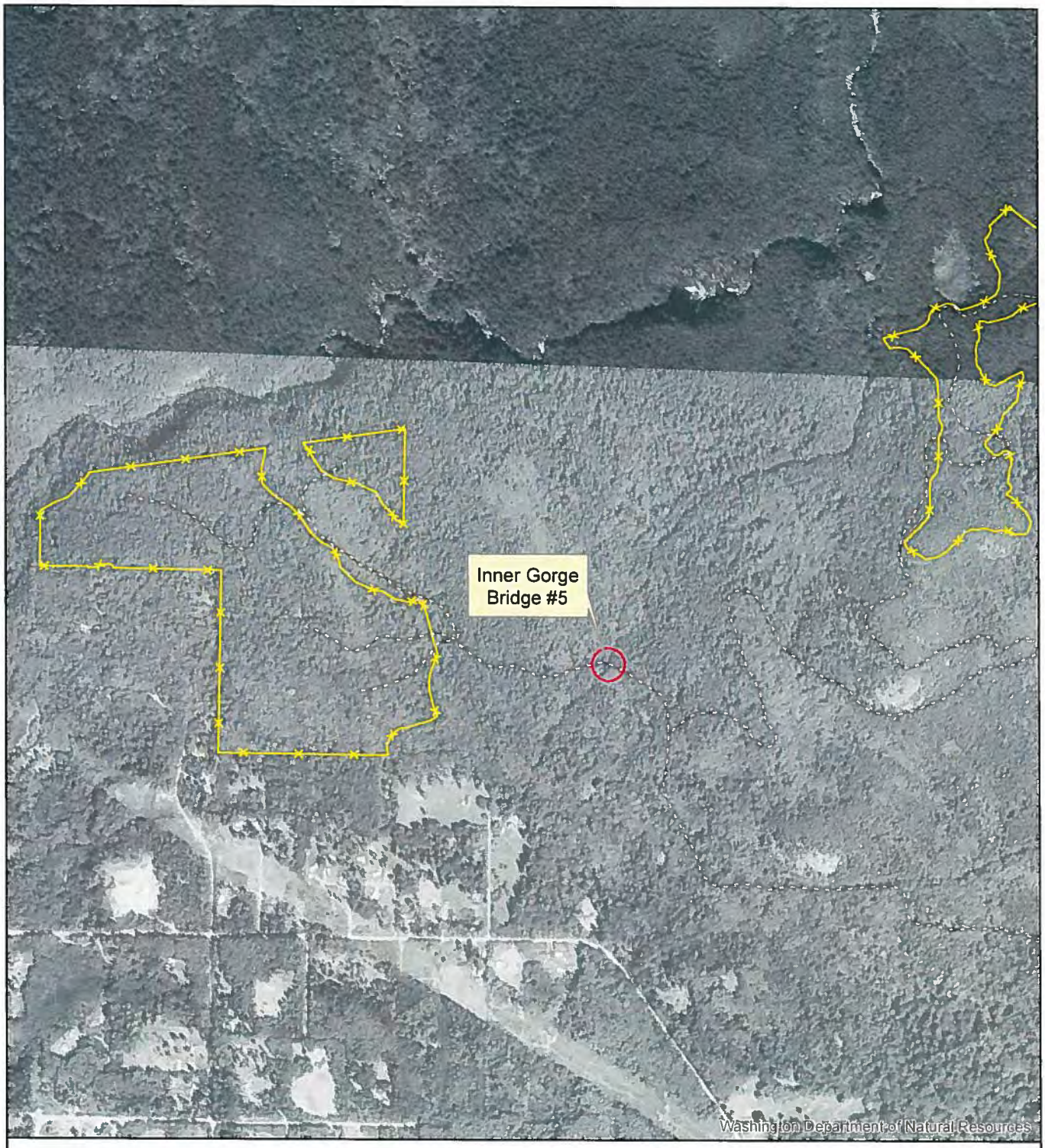
Middle May Timber Harvest

1,000 Ft.

Scale 1:12,000

Washington State Department of Natural Resources

N



Legend

Harvest Unit Boundary

Proposed Roads

Fig. 9

1990'S AERIAL IMAGERY

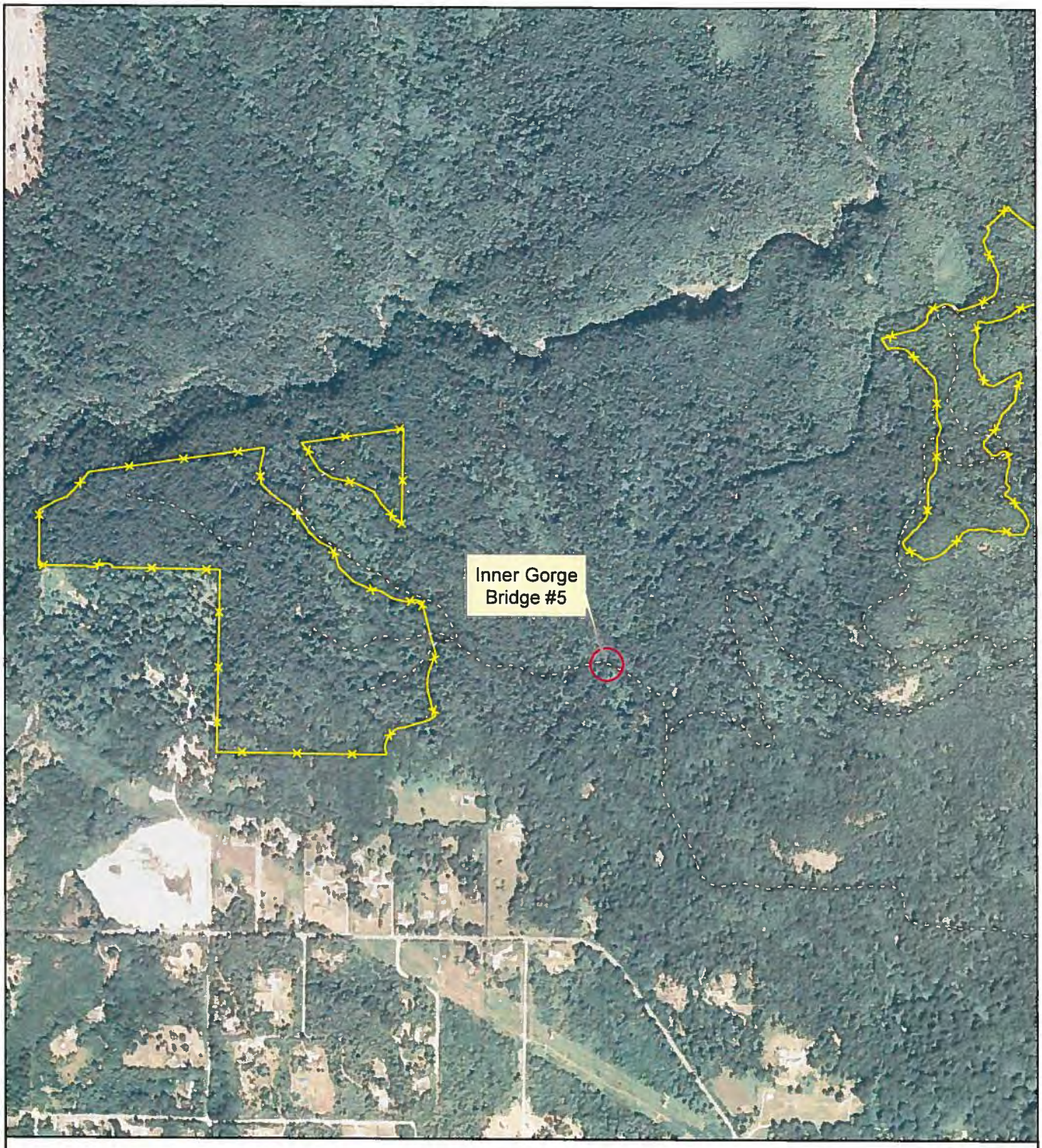
Middle May Timber Harvest

1,000 Ft.

Scale 1:12,000

Washington State Department of Natural Resources

N



Legend

Harvest Unit Boundary

Proposed Roads

Fig. 10

2006 AERIAL IMAGERY

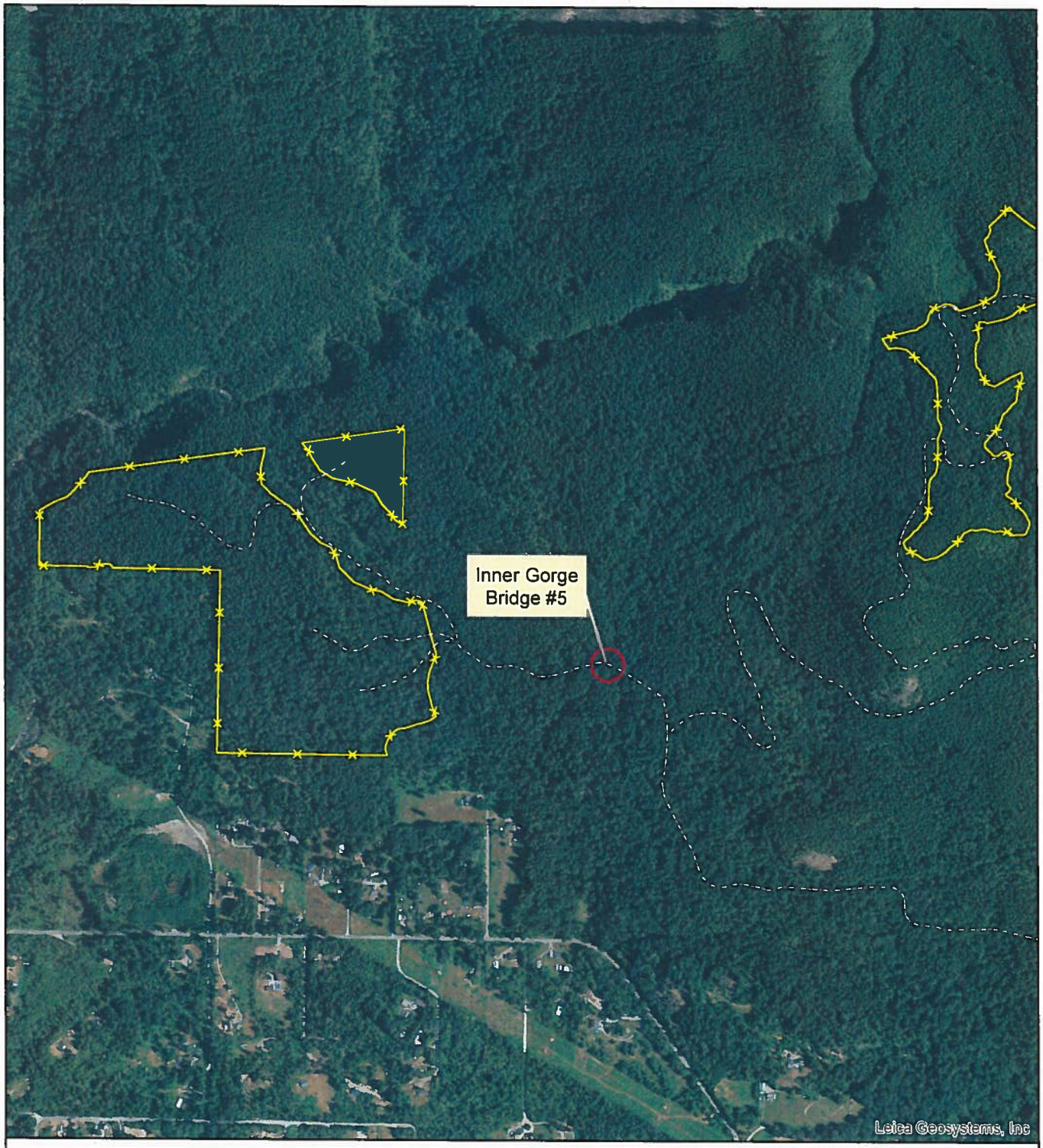
Middle May Timber Harvest

1,000 Ft.

Scale 1:12,000

Washington State Department of Natural Resources

N



Legend

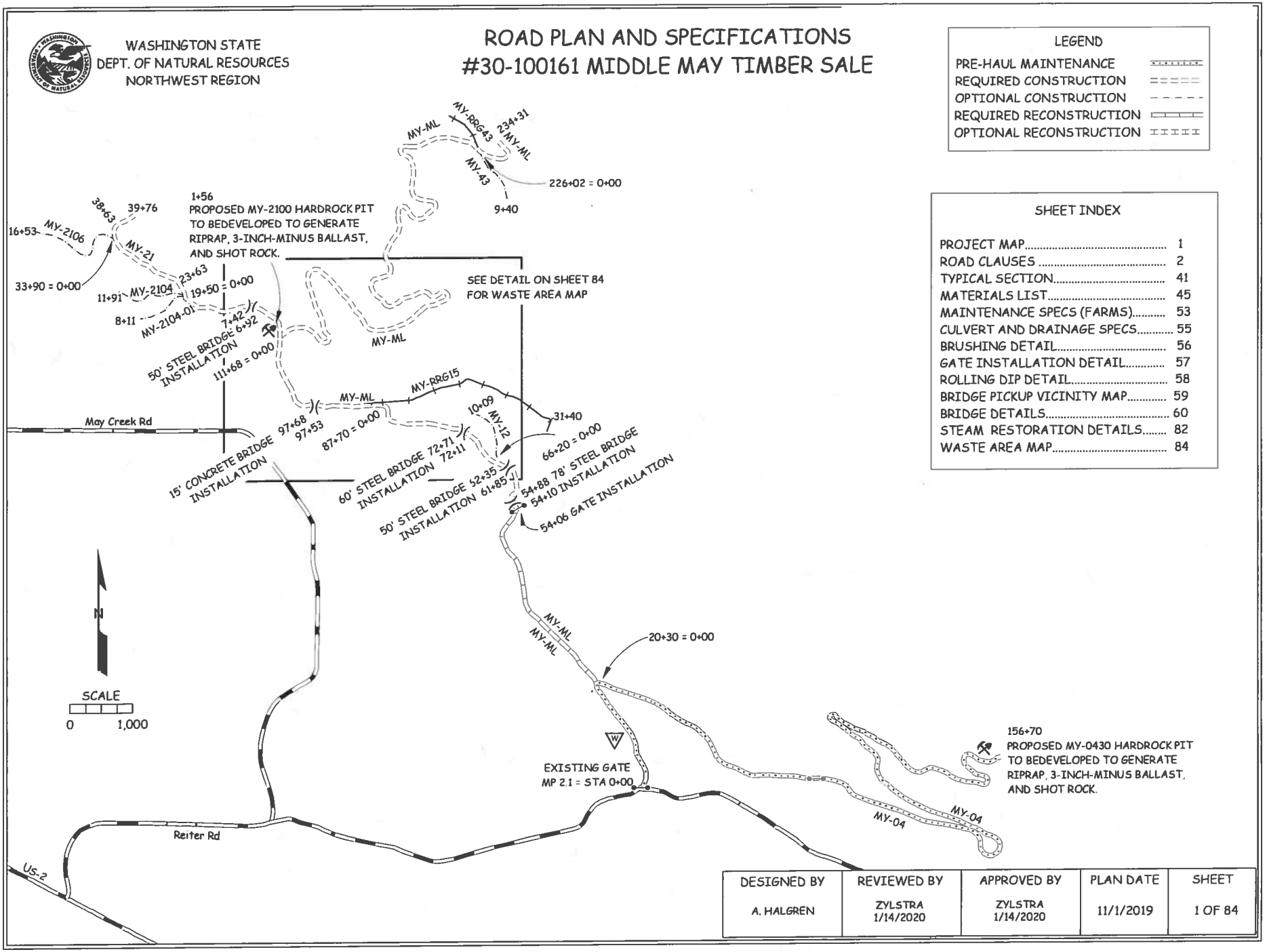
Harvest Unit Boundary

Proposed Roads

Fig. 11	**2018 AERIAL IMAGERY** Middle May Timber Harvest	1,000 Ft. Scale 1:12,000 Washington State Department of Natural Resources	N

WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

ROAD PLAN AND SPECIFICATIONS
#30-100161 MIDDLE MAY TIMBER SALE



DESIGNED BY	REVIEWED BY	APPROVED BY	PLAN DATE	SHEET
A. HALGREN	ZYLSTRA 1/14/2020	ZYLSTRA 1/14/2020	11/1/2019	1 OF 84

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STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

MIDDLE MAY TIMBER SALE ROAD PLAN
SNOHOMISH COUNTY
CASCADE DISTRICT
NORTHWEST REGION

AGREEMENT NO.: 30 -100161 STAFF ENGINEER: A. HALGREN

DATE: NOVEMBER 1, 2019

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

Clauses in this road plan apply to all road related work, including landings and rock source development, unless otherwise noted.

0-2 REQUIRED ROADS

The specified work on the following roads is required.

Road	Stations	Type
MY-ML	0+00 to 20+30	MAINTENANCE
MY-ML	20+30 to 54+10	RECONSTRUCTION
MY-ML	54+10 to 234+31	CONSTRUCTION
MY-04	0+00 to 156+70	MAINTENANCE
MY-RRG15	0+00 to 31+40	ABANDONMENT*
MY-RRG15	30+40 to 31+40	STREAM BANK RESTORATION*
MY-21	0+00 to 39+76	CONSTRUCTION

*The required work is located on an orphaned grade. See also SECTION 11-4 STREAM BANK RESTORATION and STREAM BANK RESTORATION DETAIL.

0-3 OPTIONAL ROADS

The specified work on the following roads is not required. Any optional roads built by the Purchaser must meet all the specifications in the road plan.

Road	Stations	Type
MY-12	0+00 to 10+09	CONSTRUCTION
MY-2104	0+00 to 11+91	CONSTRUCTION
MY-2104-01	0+00 to 8+11	CONSTRUCTION
MY-2106	0+00 to 16+53	CONSTRUCTION
MY-43	0+00 to 9+40	CONSTRUCTION

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0-4 CONSTRUCTION

Construction includes, but is not limited to clearing, grubbing, excavation and embankment to sub-grade, full bench sidecast, full bench end-haul, landing and turnout construction, culvert installation, geotextile installation, steel modular bridge installation, concrete bridge installation, drill and shoot, gate installation, application of 3-inch-minus ballast rock and application of shot rock.

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to blading, shaping, and ditching the road surface, brushing, clearing, grubbing, culvert installation, gate installation, and application of 3-inch-minus ballast rock.

0-6 PRE-HAUL MAINTENANCE

Pre-haul maintenance includes, but is not limited to brushing, existing culvert cleanout, and blading, shaping, and ditching the road surface.

0-7 POST-HAUL MAINTENANCE

This project includes post-haul road maintenance listed in Clause 9-5 POST-HAUL MAINTENANCE.

0-10 ABANDONMENT

This project includes abandonment listed in Clause 9-21 ROAD ABANDONMENT.

0-12 DEVELOP ROCK SOURCE

Purchaser shall develop new rock sources. Rock source development will involve clearing, stripping, drilling, shooting, and processing rock to generate shot rock, riprap, and 3-inch-minus ballast. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

0-13 STRUCTURES

Purchaser shall provide and install steel modular bridges, concrete bridge, and gate. Requirements for these structures are listed in Section 7 STRUCTURES.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

If the Purchaser desires a change from this road plan including, but not limited to, relocation, extension, change in design, or adding roads; a revised road plan must be submitted in writing to the Contract Administrator for consideration. Before work begins, Purchaser shall obtain approval from the State for any submitted plan that changes the scope of work or environmental condition from the original road plan.

1-2 UNFORESEEN CONDITIONS

Quantities established in this road plan are minimum acceptable values. Additional quantities required by the state due to unforeseen conditions, or Purchaser's choice of construction season or techniques will be at the Purchaser's expense. Unforeseen conditions include, but are not limited to, solid subsurface rock, subsurface springs, saturated ground, and unstable soils.

1-3 ROAD DIMENSIONS

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan.

1-4 ROAD TOLERANCES

Purchaser shall perform road work within the tolerances listed below. The tolerance class for each road is listed on the TYPICAL SECTION SHEET.

Tolerance Class	A	B	C
Road and Subgrade Width (feet)	+1.5	+1.5	+2.0
Subgrade Elevation (feet +/-)	0.5	1.0	2.0
Centerline alignment (feet lt./rt.)	1.0	1.5	3.0
Bridge Elevation (feet)	±0.25	-	-

1-5 DESIGN DATA

Design data (for bridges and switchbacks) is available upon request at the Department of Natural Resources Northwest Region Office in Sedro Woolley, WA.

1-6 ORDER OF PRECEDENCE

Any conflict or inconsistency in the road plan will be resolved by giving the documents precedence in the following order:

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.
7. Road Work maps.

In case of any ambiguity or dispute over interpreting the road plan, the Contract Administrator's or designee's decision will be final.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer's recommendation, and may not begin without written approval from the Contract Administrator.

1-9 DAMAGED METALLIC COATING

Any cut ends, or damaged galvanized or aluminized coating on existing or new bridge components, culverts, downspouts, and flumes must be cleaned and treated with a minimum of two coats of zinc rich paint or cold galvanizing compound.

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work on the following road(s) in accordance with the construction stakes and reference points set in the field for grade and alignment.

Road	Stations	Type
MY-ML	54+10 to 54+88	Bridge (1) installation
MY-ML	61+85 to 62+35	Bridge (2) installation
MY-ML	72+11 to 72+71	Bridge (3) installation
MY-ML	97+53 to 97+68	Bridge (4) installation
MY-21	6+92 to 7+42	Bridge (5) installation

1-18 REFERENCE POINT DAMAGE

Purchaser shall reset reference points (RPs) that were moved or damaged at any time during construction to their original locations. Excavation and embankment may not proceed on road segments controlled by said RPs until Purchaser resets all moved or damaged RPs.

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan for any hauling other than timber cut on the right-of-way, without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

On the following road(s), Purchaser shall notify the Contract Administrator within 14 days, and a minimum of 7 calendar days, before work begins.

Road	Stations	Note
MY-ML	54+10 to 54+88	Bridge (1) installation
MY-ML	61+85 to 62+35	Bridge (2) installation
MY-ML	72+11 to 72+71	Bridge (3) installation
MY-ML	97+53 to 97+68	Bridge (4) installation
MY-ML	118+45 to 122+19	Switchback (1)
MY-ML	133+61 to 136+99	Switchback (2)
MY-ML	159+36 to 165+43	Switchback (3)
MY-ML	191+45 to 195+53	Switchback (4)
MY-ML	198+96 to 202+70	Switchback (5)
MY-ML	210+91 to 215+92	Switchback (6)
MY-21	6+92 to 7+42	Bridge (5) installation

1-25 ACTIVITY TIMING RESTRICTION

The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator.

<table>
<tr><th>Road</th><th>Stations</th><th>Activity</th><th>Closure Period</th></tr>
<tr><td colspan="2">ALL</td><td>Rock hauling, construction, reconstruction, or abandonment</td><td>November 1 to March 31</td></tr>
<tr><td>MY-ML</td><td>54+10 to 54+88,
61+85 to 62+35,
72+11 to 72+71,
97+53 to 97+68</td><td rowspan="2">In-stream work for structure installation</td><td rowspan="2">September 30 – July1, not to be waived by the Contract Administrator except with written approval from WDFW and Forest Practices</td></tr>
<tr><td>MY-21</td><td>6+92 to 7+42</td></tr>
<tr><td>MY-21</td><td>23+63 to 38+63</td><td rowspan="2">Construction</td><td rowspan="2">October 15th to June 15th to protect WMZ function</td></tr>
<tr><td>MY-2106</td><td>0+00 to 0+92</td></tr>
</table>

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

Purchaser shall not allow silt-bearing runoff to enter any streams.

1-30 CLOSURE TO PREVENT DAMAGE

In accordance with Contract Clause G-220 STATE SUSPENDS OPERATION, the Contract Administrator will suspend road work or hauling right-of-way timber, forest products, or rock under the following conditions:

- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

Operations must stop unless authority to continue working or hauling is granted in writing by the Contract Administrator. In the event that surface or base stability problems persist, Purchaser shall cease operations, or perform corrective maintenance or repairs, subject to specifications within this road plan. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

1-32 BRIDGE SURFACE RESTRICTION

The use of metal tracked equipment is not allowed on concrete or wood-deck bridge surfaces at any time. If Purchaser must run equipment on bridge surfaces, then rubber tired equipment or other methods, approved in writing by Contract Administrator, must be used.

If tracked equipment is used on concrete or wood-deck bridge surfaces, Purchaser shall immediately cease all road construction and hauling operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge surface(s) and have surface(s) evaluated by the District Engineer or their designee for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

1-42 UTILITY ACCESS ROAD

The following road(s) intersect(s) existing utility access roads. Purchaser shall conduct road work on the intersecting roads so that the utility access roads are accessible at all times.

Road	Stations
MY-ML	0+00 to 20+30

1-43 ROAD WORK AROUND UTILITIES

Road work is in close proximity to a utility. Known utilities are listed, but it is the Purchaser's responsibility to identify any utilities not listed. Purchaser shall work in accordance with all applicable laws or rules concerning utilities. Purchaser is responsible for all notification, including "call before you dig", and liabilities associated with the utilities and their rights-of-way. Purchaser shall notify the Bonneville Power Administration before starting road work.

Road	Stations	Utility	Utility Contact
MY-ML	0+00 to 20+30	Bonneville Power Admistration (overhead powerlines)	**1-800-282-3713**

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

Purchaser shall maintain all roads used under this contract in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS for the entire term of this contract. Maintenance is required even during periods of inactivity.

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

Purchaser shall perform maintenance on roads listed in Contract Clause C-050 PURCHASER ROAD MAINTENANCE AND REPAIR in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain the following road(s) in a condition that will allow the passage of light administrative vehicles.

Road	Stations
MY-ML	0+00 to 20+30

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before rock haul and must be done in accordance with the Forest Access Road Specifications.

Road	Stations
MY-04	0+00 to 156+70

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 6 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

Road	Stations
MY-ML	0+00 to 20+30
MY-04	0+00 to 156+70

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-6 CLEARING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

At the following stream crossing location(s), Purchaser shall place a log, with length equal to two (2) times the width of the ordinary high water, from the largest diameter class conifer tree cut from within the Inner Zone (25 feet either side of the stream) in the stream in accordance with the Riparian Forest Restoration Strategy.

Road	Stations
MY-ML	54+10 to 54+88, 61+85 to 62+35, 72+11 to 72+71, 97+53 to 97+68
MY-21	6+92 to 7+42

3-8 PROHIBITED DECKING AREAS

Purchaser shall not deck right-of-way timber in the following areas:

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- Against standing trees.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET and within waste and debris areas. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Grubbing must be completed before starting excavation and embankment.

3-11 GRUBBING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

At the following stream crossing location(s), Purchaser shall retain all grubbed stumps (root wads) within the Inner Zone (25 feet either side of the stream) for placement in accordance with the Riparian Forest Restoration Strategy. Three root wads must be placed in or adjacent to the stream channel. The remaining stumps grubbed from the Inner Zone must be placed at least 50 feet from the roadway in the Middle (25 feet to 100 feet from the stream) or the Outer Zones (remaining portion of RMZ).

Road	Stations
MY-ML	54+10 to 54+88, 61+85 to 62+35, 72+11 to 72+71, 97+53 to 97+68
MY-21	6+92 to 7+42

3-12 STUMP PLACEMENT

On the following road(s), Purchaser shall place grubbed stumps adjacent to the road shoulder or as directed by the Contract Administrator and in compliance with all other clauses in this road plan. Stumps must be positioned upright, with root wads in contact with the forest floor on stable locations.

Road	Stations	Comments
MY-21	STA 23+63 to 33+90	Place stumps on downhill side, below fill slope
	33+90 to 38+63	Place stumps in two rows on both sides of the road

3-20 ORGANIC DEBRIS DEFINITION

Organic debris is defined as all vegetative material not eligible for removal by Contract Clause G-010 PRODUCTS SOLD AND SALE AREA or G-011 RIGHT TO REMOVE FOREST PRODUCTS AND CONTRACT AREA, that is larger than one cubic foot in volume within the clearing limits as shown on the TYPICAL SECTION SHEET.

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris before the application of rock.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris shall be located at areas approved in writing by the Contract Administrator.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland, unless used to comply with the specifications detailed in the Riparian Forest Restoration Strategy, Clause 3-6 CLEARING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING, and Clause 3-11 GRUBBING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 50%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

Purchaser shall not bury organic debris unless otherwise stated in this plan.

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits in natural openings unless otherwise detailed in this road plan.

3-32 END HAULING ORGANIC DEBRIS

On the following road(s), Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS.

Road	Stations
MY-ML	STA 116+13 to 117+94

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. Pioneering may not extend more than 500 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions must be taken as pioneering progresses:

- Drainage must be provided on all uncompleted construction.
- Road pioneering operations may not undercut the final cut slope or restrict drainage.
- Culverts at live stream crossings must be installed during pioneering operations prior to embankment.

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- On temporary roads maximum grades may not exceed 18 percent favorable and 15 percent adverse.
- On permanent roads maximum grades may not exceed 16 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

Grade limitations and alignment are modified as follows:

Road	Stations	Minimum Curve Radius (ft)	Maximum Grade (%)	
			Favorable	Adverse
MY-ML	118+45 to 122+19	70	12	-
MY-ML	133+61 to 136+99	70	12	-
MY-ML	159+36 to 165+43	70	12	-
MY-ML	191+45 to 195+53	70	12	-
MY-ML	198+96 to 202+70	70	12	-
MY-ML	210+91 to 215+92	70	12	-

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees. Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 10% of the curve radius.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 6% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

Purchaser shall construct excavation slopes no steeper than shown on the following table, unless construction staked or designed:

Material Type	Excavation Slope Ratio	Excavation Slope Percent
Common Earth (on side slopes up to 55%)	1:1	100
Common Earth (56% to 70% side slopes)	¾:1	133
Common Earth (on slopes over 70%)	½:1	200
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

4-6 EMBANKMENT SLOPE RATIO

Purchaser shall construct embankment slopes no steeper than shown on the following table, unless construction staked or designed:

Material Type	Embankment Slope Ratio	Embankment Slope Percent
Sandy Soils	2:1	50
Common Earth and Rounded Gravel	1½:1	67
Angular Rock	1¼:1	80

4-7 SHAPING CUT AND FILL SLOPE

Purchaser shall construct excavation and embankment slopes to a uniform line and left rough for easier revegetation.

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

- 6 feet for curves of 50 to 79 feet radius.
- 4 feet for curves of 80 to 100 feet radius.

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

- 2 feet for embankment heights at centerline of 2 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

Purchaser shall apply embankment widening equally to both sides of the road to achieve the required width.

4-12 FULL BENCH CONSTRUCTION

On the following road(s) and where side slopes exceed 50% full bench construction shall be utilized for the entire subgrade width except as construction staked or designed. If designated, waste material shall be end hauled to a location specified in Clause 4-37 WASTE AREA LOCATION.

Road	Full Bench Location (STA)	Comments
MY-ML	116+13 to 117+53	Wet area above steep slope.
MY-ML	150+56 to 155+18	-
MY-ML	159+81 to 160+21	-
MY-ML	169+16 to 171+15	-
MY-ML	174+68 to 179+00	Rock may be used for road construction with in-place processing if approved in writing by the contract administrator.
MY-12	1+42 to 1+81	Located within a channel migration zone (CMZ). Full bench construction is required to achieve grade through swales. Material may be sidecast and staged for requirements as listed in 9-24 HEAVY ABANDONMENT.
MY-12	3+57 to 3+88	
MY-12	4+62 to 4+90	

4-21 TURNOUTS

Purchaser shall construct turnouts intervisible with a maximum distance of 1,000 feet between turnouts unless otherwise shown on drawings. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the TYPICAL SECTION SHEET.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

Purchaser shall construct or reconstruct ditches into the subgrade as specified on the TYPICAL SECTION SHEET. Ditches must be constructed concurrently with construction of the subgrade.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts at locations shown on the MATERIALS LIST and as needed or as directed by the Contract Administrator. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio.

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4-35 WASTE MATERIAL DEFINITION

Waste material is defined as all dirt, rock, mud, or related material that is extraneous or unsuitable for construction material. Waste material, as used in Section 4 EXCAVATION, is not organic debris.

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 50% if the waste material is compacted and free of organic debris. On side slopes greater than 50%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated. Additional waste areas may also be identified or approved by the Contract Administrator. The amount of material allowed in a waste area is as listed unless approved by the Contract Administrator.

Road	Waste Area Location	Comments	Volume
MY-ML	4+40 to 6+40	-	1000
MY-ML	83+00 to 86+70	-	2600
MY-ML	92+90 to 94+90	-	1400
MY-ML	103+08 to 105+68	-	1800
MY-ML	112+47 to 114+81	-	1600
MY-ML	132+00 to 133+61	Place below road grade (outside switchback curve)	1100
MY-ML	133+61 to 135+79	Place inside switchback	1500
MY-ML	140+45 to 145+19	-	3500
MY-ML	146+45 to 147+80	-	1000
MY-ML	156+11 to 157+02	-	600
MY-21	3+71 to 5+05		

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas, except as otherwise specified in this plan:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- On side slopes steeper than 50%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits.
- Within a CMZ, see 11-3 CONSTRUCTION WIHIN A CHANNEL MIGRATION ZONE.

4-55 ROAD SHAPING

Purchaser shall shape the subgrade and surface as shown on the TYPICAL SECTION SHEET. The subgrade and surface shape must ensure runoff in an even, un-concentrated manner, and must be uniform, firm, and rut-free.

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material by routing equipment over the entire width of each lift.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades by routing equipment over the entire width

4-70 SUBGRADE REINFORCEMENT

On the following road(s), Purchaser shall provide and install geotextile fabric. Subgrade reinforcement must be installed to a width that is 2 feet more than the subgrade width, including turnouts. Geotextile fabric must overlap by a minimum of 2 feet at all joints. The geotextile fabric must be covered with a minimum of 12 inches of compacted 3-inch-minus ballast rock/gravel ballast. Purchaser shall apply rock in one-foot lift(s) over the geotextile in accordance with the manufacturer's specifications. Geotextile fabric must meet the specifications in Clause 10-3 GEOTEXTILE FOR STABILIZATION.

Road	Stations
MY-ML	55+36 to 56+87
MY-ML	115+72 to 118+45
MY-ML	123+24 to 125+92
MY-ML	197+16 to 200+99
MY-21	18+38 to 20+13
MY-21	22+42 to 24+02
MY-21	25+39 to 28+49
MY-21	33+90 to 38+63
MY-2104	5+81 to 7+83

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the MATERIALS LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts may be new or used material and must meet the specifications in Clauses 10-15 through 10-24.

5-7 USED CULVERT MATERIAL

On temporary roads, Purchaser may install used culverts. All other roads must have new culverts installed. Purchaser shall obtain approval from the Contract Administrator for the quality of the used culverts before installation. Culverts must meet the specifications in Clauses 10-15 through 10-24.

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the MATERIALS LIST that are not installed will become the property of the state. Purchaser shall stockpile materials as directed by the Contract Administrator.

5-13 CONTINGENCY CULVERTS

The following culverts will be supplied by the Purchaser and are available for installation as directed by the Contract Administrator.

Road	Size	Quantity
On any portion of road used for timber or rock haul.	18" x 36' culvert	4
	18" x 40' culvert	4

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings".

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Purchaser shall obtain written approval from the Contract Administrator for the installation of culverts 36 inches in diameter and over before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains, on road grades in excess of 3%, must be skewed at least 30 degrees from perpendicular to the road centerline, except where the cross drain is at the low point in the road culverts will not be skewed. Cross drain culverts must be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 10%.

5-18 CULVERT DEPTH OF COVER

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover recommended by the culvert manufacturer for the type and size of the pipe.

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock used for headwalls must weigh at least 50 pounds. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock is allowed.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert(s), Purchaser shall place rip rap in conjunction with construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the MATERIALS LIST and CULVERT AND DRAINAGE SPECIFICATIONS or as directed by the Contract Administrator. Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be set in place by machine. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed. Rip rap must meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP and 6-50 HEAVY LOOSE RIP RAP

Road	Stations
MY-ML	117+02
MY-ML	124+66
MY-21	27+84
MY-2104-01	1+14
MY-2104-01	5+19

5-31 ROLLING DIP CONSTRUCTION

Purchaser shall construct rolling dips in accordance with the ROLLING DIP DETAIL and as specified on the MATERIALS LIST. Rolling dips must be installed concurrently with construction of the subgrade and must be maintained in an operable condition. Purchaser shall install rolling dips using a <dozer. Use of other equipment is not allowed without written approval of the Contract Administrator

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from the following source(s) on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan.

Source	Location	Rock Type
MY-0430 (Proposed)	STA 156+70 of the MY-04 road.	Hard Rock
MY-2100* (Proposed)	STA 1+56 of the MY-21	Hard Rock

*See special requirements for pit development in clause 6-12.

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from any commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use.

6-11 ROCK SOURCE DEVELOPMENT PLAN BY PURCHASER

Purchaser shall conduct rock source development and use in accordance with a written ROCK SOURCE DEVELOPMENT PLAN to be prepared by the Purchaser. The plan is subject to written approval by the Contract Administrator before any rock source operations. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator.

Rock source development plans prepared by the Purchaser must show the following information:

- Rock source location.
- Rock source overview showing access roads, development areas, stockpile locations, waste areas, and floor drainage.
- Rock source profiles showing development areas, bench locations including widths, and wall faces including heights.

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications:

- Pit walls may not be undermined or over steepened. The maximum slope of the walls must be consistent with recognized engineering standards for the type of material being excavated in accordance with the following table:

Material	Maximum Slope Ratio (Horiz. :Vert.)	Maximum Slope Percent
Sand	2:1	50
Gravel	1.5:1	67
Common Earth	1:1	100
Fractured Rock	0.5:1	200
Solid Rock	0:1	vertical

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- All vehicle access to the top of the pit faces must be blocked.

If the Purchaser elects to use the proposed MY-2100 hard rock pit the following requirements must be met:

- Contact all neighbors within 0.5 miles of the pit a minimum of 14 days prior to shooting the pit.
- Stem depth must be a minimum of 6' where possible to cut down on fly rock and noise.

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Purchaser shall notify the Contract Administrator a minimum of 14 working days before blasting operations.
- Purchaser shall block access roads and trails before blasting operations.

6-21 IN-PLACE PROCESSING

On temporary roads and at the following location(s) Purchaser may use in-place processing, such as a grid roller or other method, if suitable crushing can be demonstrated to meet the surfacing size-specified in Clause 6-38 4-INCH IN-PLACE ROCK. Purchaser shall remove any existing organic debris before the start of in-place crushing operations. The use of in-place processing methods is subject to written approval by the Contract Administrator.

Road	Stations	Remarks
MY-ML	STA 174+68 to 179+00	Drill and shoot construction may be necessary.

6-23 ROCK GRADATION TYPES

Purchaser shall provide rock in accordance with the types and amounts listed in the TYPICAL SECTION and MATERIALS LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles or during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-34 3-INCH MINUS BALLAST ROCK

Ballast rock must be 100% equal to, or smaller than, 3 inches in at least one dimension.

Rock may contain no more than 5 percent organic debris, dirt, and trash. All percentages are by weight.

6-38 4-INCH IN-PLACE ROCK

4-inch in-place rock must have a minimum of 90 percent of the top 4 inches of the running surface pass a 4-inch square opening.

In-place rock may not contain more than 5 percent by weight of organic debris and trash. No more than 5 percent of rock may be larger than 6 inches in any dimension and no rock may be larger than 10 inches in any dimension.

6-50 LIGHT LOOSE RIP RAP

Light loose rip rap must consist of angular, hard, sound, and durable stone. It must be free from segregation, seams, cracks, and other defects tending to destroy its resistance to weather. Light loose rip rap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

Quantity	Approximate Size Range
20% to 90%	500 lbs. to 1 ton (18"- 28")
15% to 80%	50 lbs. to 500 lbs. (8"- 18")
10% to 20%	3 inch to 50 lbs. (3"- 8")

6-51 HEAVY LOOSE RIP RAP

Heavy loose rip rap must consist of angular, hard, sound, and durable stone. It must be free from segregation, seams, cracks, and other defects tending to destroy its resistance to weather. Heavy loose rip rap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

Quantity	Size Range
30% to 90%	1 ton to 2 ton (28"- 36")
30% to 70%	500 lbs. to 1 ton (18"- 28")
20% to 50%	50 lbs. to 500 lbs. (8"- 18")
10% to 20%	3 inch to 50 lbs. (3"- 8")

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths, are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the TYPICAL SECTION are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements, and are not subject to reduction.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for culvert installation, ditch construction, ditch reconstruction, headwall construction, and headwall reconstruction before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the TYPICAL SECTION. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. The Contract Administrator will direct locations for rock that is to be applied as spot patching. Road surfaces must be compacted in accordance with the TYPICAL SECTION by routing equipment over the entire width.

6-73 ROCK FOR WIDENED PORTIONS

Purchaser shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way.

6-80 WATERING FOR DUST ABATEMENT

Purchaser shall use water for dust abatement on the following roads, as directed by the Contract Administrator.

Road	Stations
MY-ML	0+00 to 234+31
MY-04	0+00 to 156+70

SECTION 7 – STRUCTURES

7-6 STREAM CROSSING INSTALLATION

Purchaser shall install stream crossing structures in accordance with the manufacturer's requirements, and specifications, Riparian Forest Restoration Strategy, requirements of the FPHP, and the bridge installation details on sheets 60-77.

7-16 DRAWING AND CALCULATION REVIEW FOR ACCEPTANCE

Purchaser shall prepare and submit three sets of complete design drawings and calculations for the superstructure and substructure including footings, foundation and bank protection. All drawings and calculations must be prepared, stamped, and signed by a Registered Professional Engineer licensed in the State of Washington. The superstructure must be designed by a Professional Engineer licensed in the state of manufacture. Drawings can be in either electronic or hard copy form and must be no smaller than 11" X 17" sheets.

Bridge super structure design must include all shop detail plans for fabricating the steel. All welds and splices must be shown on the shop plans. No welded field splices will be allowed; all field splices must be bolted and explicitly designed. No welded splices will be allowed on girders, floor beams, or truss members without specific approval from the Region Engineer or designee. When used, shop splices are generally complete joint penetration (CIP) butt-welded splices that develop the full section strength of the adjoining materials. In general, splices must not be made for material lengths or spans under 60 feet, or for widths or depths under 12.5 feet, unless the Purchaser demonstrates that the material is not otherwise readily and commercially available.

Send submittals to:

Department of Natural Resources
Attn.: Tamra Zylstra
919 N Township St.
Sedro Woolley, WA 98284
360-854-2807
tamra.zylstra@dnr.wa.gov

Reports and plans will be accepted or rejected within 30 working days of receipt. Delays in work because of the possibility of rejection, revision, and resubmittal of documents are deemed a risk of the Purchaser and may not be the basis for claims of additional compensation.

Materials may not be fabricated until the Region Engineer or designee has approved the plans. Changes are not allowed in any shop plan after approval unless approved in writing by the Region Engineer or designee.

7-17 STRUCTURE ACCEPTANCE

The Region Engineer or designee will inspect the structure upon delivery. Acceptance will be issued if the structure meets all specifications and certifications. Structures that are not accepted may not be installed.

7-18 INSTALLATION PRODUCTION SCHEDULE

Purchaser shall provide the Contract Administrator or their designee, with a production schedule showing projected completion dates for the following items before starting construction of the structure(s). Production schedule must include:

- excavation
- placement of sills/abutments/footings/structure
- backfill compaction, rock application and compaction

7-19 INSTALLATION STAGE ACCEPTANCE

Purchaser shall ensure that all materials and procedures used during construction comply with the design. Purchaser shall obtain written approval from the Contract Administrator or their designee, after verification by the Region Engineer or designee for each stage of construction, listed in Clause 7-18 INSTALLATION PRODUCTION SCHEDULE, before starting construction on the next stage. Purchaser shall notify the Contract Administrator in writing when each construction stage is complete.

7-20 INSTALLATION FINAL ACCEPTANCE

Purchaser shall notify the Contract Administrator in writing when each structure is complete. Within 15 working days of final construction acceptance, Purchaser shall submit two complete sets of finalized plans to the Region Engineer and one to the Contract Administrator. Any omissions to the plans are the responsibility of the Purchaser to correct and include in the finalized set of plans. Submit finalized plans to the same location stated in Clause 7-15 DRAWING AND CALCULATION REVIEW FOR ACCEPTANCE.

7-45 PURCHASER SUPPLIED BRIDGE

Purchaser shall provide, and construct each bridge listed below. Refer to Technical Bridge Specifications and design sheets for details.

Road	Station	Length (ft)	W.B.S.R.[1] (ft)	Bridge Type	Footing / Abutment	Running Surface
MY-ML	54+10 to 54+88	78	14	Modular Steel	Spread Footings	Gravel or Concrete
MY-ML	72+11 to 72+71	60	14	Modular Steel	(1) Spread Footing, and (1) Tower and Pad	Gravel or Concrete
MY-ML	97+53 to 97+68	15	16	Concrete Slab	Spread Footing on Precast Block Wall	Concrete

[1]W.B.S.R. = Width between shear rails.

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7-46 STATE SUPPLIED BRIDGE

Purchaser shall deliver and construct each bridge listed below. Bridge(s) are available for use within the terms of the contract without charge from the state.

Road	Station	Length (ft)	W.B.S.R.[1] (ft)	Bridge Type	Footing / Abutment	Running Surface
MY-ML	61+85 to 62+35	50	16	Modular Steel	Spread Footings	Gravel
MY-21[2]	6+92 to 7+42	50	14	Modular Steel	Spread Footings	Wood Plank

[1]W.B.S.R. = Width between shear rails

[2]This structure may also be used for the temporary crossing during construction of bridge at 54+10 of MY-ML.

7-47 PURCHASER SUPPLIED FOOTINGS

Purchaser shall provide footing designs. Bridge footings must be designed by an engineer licensed in the state or province of manufacture.

7-48 STATE SUPPLIED BRIDGE – MOBILIZATION

Purchaser is responsible for all costs associated with loading and transportation of State supplied bridges. Equipment used to lift the superstructure must have sufficient capacity to lift it free and clear without dragging. Purchaser is liable for damage to the bridge structure.

The bridges and precast spread footings are stored behind a locked gate at a location approximately two miles north of Hamilton, WA (refer to vicinity map for details). Rail posts, guardrail, backwalls, and other miscellaneous hardware are stored at the Northwest Region office in Sedro Woolley, WA.

Purchaser shall notify the Contract Administrator a minimum of 2 business days before pick up of the bridge and associated hardware.

Road	Station	Length (ft)	Bridge Sections	Section Weight (lbs)	Precast Sill Weight (lbs)	Type
MY-ML	61+85 to 62+35	50	2	15,480	11,250	BigR
MY-21	6+92 to 7+42	50	2	18,210	10,130	BigR

7-52 TECHNICAL SPECIFICATIONS

The bridge superstructure design, fabrication, and welding must be in accordance with the TECHNICAL BRIDGE SPECIFICATIONS on sheets 78-81.

7-53 BRIDGE INSTALLATION

Purchaser shall install bridges ensuring there is a full width, continuous deck with no gaps that allow water and sediment to drain from the bridge to the stream.

7-76 GATE INSTALLATION

On the following road(s), Purchaser shall install the designated gate(s). Gate installations shall be installed within 7 days of bridge installation.

Road	Station	Type*	Furnished by
MY-ML	54+06	Steel Gate	State

* Steel gate installation(s) shall be in accordance with the STEEL GATE DETAIL.

The gate and lock box shall be installed plumb and aligned to ensure all mating components match with precision. Each post shall be filled with concrete and set in a minimum of 4 cubic yards of poured-in-place concrete. The Contract Administrator will supply the Purchaser with a padlock. If the Purchaser wishes to install an alternate design, detailed plans for the construction of the gate shall be submitted to the Contract Administrator, or their designee, for approval, in writing, before gate installation.

7-77 GATE SUPPLIED BY STATE

A gate with lock box is located at NW Region Office. After arranging with the Contract Administrator, Purchaser shall transport the gate, tie-back post, and lock box to the installation site. Notification to Region Engineer is required 24-48 hours in advance of pickup.

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of straw to all exposed soils at culvert installations. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-3 EROSION CONTROL MATTING

On the following road(s), Purchaser shall install biodegradable erosion control matting to provide full coverage of the disturbed area. Matting must be either natural fiber matting made of jute or coconut, or an erosion control blanket made of wood excelsior. Erosion control matting must conform to the specifications listed in Clause 10-10 JUTE EROSION CONTROL MATTING or 10-11 COCONUT EROSION CONTROL MATTING or 10-12 WOOD EXCELSIOR EROSION CONTROL MATTING. Installation must be in accordance with the manufacturer's recommendations.

Road	Stations	Remarks
MY-ML	54+10 to 54+88	Place erosion control matting on temporary bridge access adjacent to bridge installation.

8-5 CHECK DAM

On the following road(s), Purchaser shall construct rock check dams every 2 vertical feet in the ditch. Check dams must be built with 3-inch minus crushed rock to a depth of 8 inches and a length of 4 feet.

Road	Stations
MY-ML	61+58 to 61+85

8-10 STABILIZE SLOPES – ROCK APPLICATION

On the following road(s), Purchaser shall stabilize embankment (fill) slopes by applying rock as specified below. Rock must be set in place in conjunction with or immediately following construction of the embankment. Rock must be applied in quantities specified in the MATERIALS LIST to exposed soil on the entire embankment to a minimum depth 24 inches. Rock must be set in place by machine. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed.

Road	Stations
MY-ML	160+53 to 162+02

8-15 REVEGETATION

Purchaser shall spread seed and fertilizer on all exposed soils within the grubbing limits resulting from road work activities. Cover all exposed soils using manual dispersal of grass seed and fertilizer. Other methods of covering must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the grass seed and fertilizer as directed in clauses 8-25 GRASS SEED, 8-26 GRASS SEED: WETLAND MANAGEMENT MIX, and 8-27 FERTILIZER.

8-17 REVEGETATION TIMING

Purchaser shall revegetate during the first available opportunity after road work is completed Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed if revegetation occurs between July 1 and March 31. The protective cover may consist of dispersed straw, jute matting, or clear plastic sheets. The protective cover requirement may be waived in writing by the Contract Administrator if Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed and fertilizer in areas that have failed to germinate or have been damaged through any cause. Restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the seed and fertilizer at no addition cost to the state.

8-25 GRASS SEED

Except as specified in clause 8-26 GRASS SEED: WETLAND MANAGEMENT MIX, Purchaser shall evenly spread the seed mixture listed below on all exposed soil inside the grubbing limits at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

1. Weed seed may not exceed 0.5% by weight.
2. All seed species must have a minimum 90% germination rate, unless otherwise specified.
3. Seed must be certified.
4. Seed must be furnished in standard containers showing the following information:
    a. Common name of seed
    b. Net weight
    c. Percent of purity
    d. Percentage of germination
    e. Percentage of weed seed and inert material
5. Seed must conform to the following mixture unless a comparable mix is approved in writing by the Contract Administrator.

Kind and Variety of Seed in Mixture	% by Weight
Creeping Red Fescue	50
Elf Perennial Rye Grass	25
Highland Colonial Bentgrass	15
White Clover	10
Inert and Other Crop	0.5

8-26 GRASS SEED: WETLAND MANAGEMENT MIX

On the following roads, located in proximity to a Wetland Management Zone, a Wetland Management seed mixture shall be used instead of the mixture listed in 8-25 GRASS SEED.

Road	Stations
MY-21	STA 23+63 to 34+82
MY-2106	STA 0+00 to 4+73

Purchaser shall evenly spread the Wetland Management seed mixture listed below on all exposed soil inside the grubbing limits at a rate of 50 pounds per acre of exposed soil. Grass seed shall meet the following specifications:

1. Weed seed shall not exceed 0.5% by weight.
2. All seed species shall have a minimum 90% germination rate, unless otherwise specified.
3. Seed shall be certified.
4. Seed shall be furnished in standard containers that show the following information:
    a. Common name of seed
    b. Net weight
    c. Percent of purity
    d. Percentage of germination
    e. Percentage of weed seed and inert material
5. Seed shall conform to the following mixture.

Kind and Variety of Seed in Mixture	% by Weight
Annual Rye Grass	40
Winter triticale	40
Perennial Rye Grass	10
Austrian winter pea (inoculated)	10

Do not use seed sources that have the label "other seeds"- these can contain invasive species.

Mulch with straw to achieve no more than 70% cover, evenly distributed, at a rate of 1.5 to 2 tons per acre.

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8-27 FERTILIZER

Purchaser shall evenly spread the fertilizer listed below on all exposed soil inside the grubbing limits at a rate of 200 pounds per acre of exposed soil. Fertilizer must meet the following specifications:

Chemical Component	% by Weight
Nitrogen	16
Phosphorous	16
Potassium	16
Sulphur	3
Inerts	49

SECTION 9 – POST-HAUL ROAD WORK

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

Culverts removed from roads become the property of the Purchaser and must be removed from state land.

9-5 POST-HAUL MAINTENANCE

Purchaser shall perform post-haul maintenance in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following before the termination of this contract or by the specified date.

Road	Stations	Type	Date
MY-12	0+00 to 6+69	HEAVY ABANDONMENT	Road may not overwinter more than one season. Abandonment must be completed within 60 days of timber removal from Unit 3.
MY-12	6+69 to 10+09	ABANDONMENT	-
MY-RRG15	0+00 to 31+40	ABANDONMENT*	
MY-2104	0+00 to 11+91	ABANDONMENT	-
MY-2104-01	0+00 to 2+26, 3+98 to 8+11	ABANDOMENT	-
MY-2104-01	2+26 to 3+98	HEAVY ABANDONMENT	-
MY-2106	0+00 to 16+53	ABANDOMENT	-
MY-43	0+00 to 9+40	ABANDOMENT	-

*The required work is located on an orphaned grade.

9-22 ABANDONMENT

- Remove all ditch relief culverts. The resulting slopes must be 1:1 or flatter. Place and compact the removed fill material in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Remove all culverts in natural drainages. The resulting slopes must be 1.5:1 or flatter. Strive to match the existing native stream bank gradient. The natural streambed width must be re-established. Place and compact the removed fill material in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Transport all removed culverts off site. All removed culverts are the property of the Purchaser.
- Construct non-drivable waterbars at natural drainage points and at a spacing that will produce a vertical drop of no more than 20 feet between waterbars and with a maximum horizontal spacing of 400 feet.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Inslope or outslope the road as appropriate.
- Remove bridges and other structures.
- Pull back unstable fill that has potential of failing and entering any Type 1 through 5 waters or wetlands. Place and compact removed material in a stable location.
- Remove berms except as designed.
- Block the road by constructing an aggressive barrier of dense interlocked large woody debris (logs, stumps, root wads, etc.) so that four wheel highway vehicles cannot pass the point of abandonment. Typical barrier dimensions are 10 feet high by 20 feet deep, spanning the entire road prism from top of cutslope to toe of fillslope. Long term effectiveness is the primary objective. If necessary construct a vehicular turn-around near the point of abandonment.
- Apply grass seed to all exposed soils resulting from the abandonment work and in accordance with Section 8 EROSION CONTROL.

9-24 HEAVY ABANDONMENT

In addition to requirements listed in 9-22 ABANDONMENT the purchaser shall complete the following abandonment items to meet hydrologic goals in proximity to RMZs and WMZs or hydrologic goals within a channel migration zone:

- Complete an on-site pre-work with the Contract Administrator and Forest Practices prior to beginning abandonment work.
- Remove embankments, sidecast fill, and place material into cut-banks and shape banks to conform to the natural ground.
- Pull back entire road prism from swales as listed in clause 11-3 CONSTRUCTION WITHIN A CHANNEL MIGRATION ZONE and place within full bench road cuts or against the side walls of each swale.
- Scatter woody debris onto re-shaped abandoned road surfaces.

10-3 GEOTEXTILE FOR STABILIZATION

Geotextiles must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for stabilization or reinforcement, and filtration. Material must be free of defects, cuts, and tears.

	ASTM Test	Requirements
Type	--	Woven
Apparent opening size	D 4751	No. 40 max
Water permittivity	D 4491	0.10 sec^{-1}
Grab tensile strength	D 4632	315 lb
Grab tensile elongation	D 4632	50%
Puncture strength	D 6241	620 lb
Tear strength	D 4533	112 lb
Ultraviolet stability	D 4355	50% retained after 500 hours of exposure

10-10 JUTE EROSION CONTROL MATTING

Jute mesh must have a uniform open plain weave made from jute yarn that does not vary by more than half its nominal diameter. Erosion control matting must conform to the specifications listed below, and must be recommended by the manufacturer for use on embankments with a slope of 1½:1 (H:V) or steeper.

- Mesh size 1 inch max.
- Mesh mass, 0.9 lb/yd^2 ±5%

10-11 COCONUT EROSION CONTROL MATTING

Coconut mat must have a uniform open plain weave made from jute, coconut coir, synthetic polypropylene fibers, or other approved yarn. Erosion control matting must conform to the specifications listed below, and must be recommended by the manufacturer for use on embankments with a slope of 1½:1 (H:V) or steeper.

- Mesh size 0.5 to 1 inch.
- Mesh mass, 0.4 lb/yd^2 min.
- Netting must be photodegradable on one side.
- Moisture content may not exceed 20%.

10-12 WOOD EXCELSIOR EROSION CONTROL MATTING

Excelsior blanket must have a uniform thickness made of curled wood excelsior secured on the top side to a biodegradable, photodegradable extruded plastic mesh. Matting must be smolder resistant without the use of additional chemical additives. Erosion control matting must conform to the specifications listed below, and must be recommended by the manufacturer for use on embankments with a slope of 1½:1 (H:V) or steeper.

- Mesh size 1 to 2 inch.
- Blanket mass, 1 lb/yd^2 ±10%
- Excelsior fibers 7.8 inch (200-mm) length 80% min.

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts must meet AASHTO M-36 (ASTM A-760) specifications. Culverts must be galvanized (zinc coated meeting AASHTO M-218).

10-16 CORRUGATED ALUMINUM CULVERT

Aluminum culverts must meet AASHTO M-196 (ASTM A-745) specifications.

10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culverts must be Type S – double walled with a corrugated exterior and smooth interior.

10-21 METAL BAND

Metal coupling and end bands must meet the AASHTO specification designated for the culvert and must have matching corrugations. Culverts 24 inches and smaller must have bands with a minimum width of 12 inches. Culverts over 24 inches must have bands with a minimum width of 24 inches.

10-22 PLASTIC BAND

Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used.

10-24 GAUGE AND CORRUGATION

Unless otherwise stated in the engineer's design, metal culverts must conform to the following specifications for gage and corrugation as a function of diameter.

Diameter	Gage	Corrugation
18"	16 (0.064")	2 $^2/_3$" X $^1/_2$"
24" to 48"	14 (0.079")	2 $^2/_3$" X $^1/_2$"
54" to 96"	14 (0.079")	3" X 1"

SECTION 11 SPECIAL NOTES

11-1 OPERATIONS AT FISH BEARING STREAMS

Purchaser shall develop a site specific Spill Prevention and Erosion Control Plan to be approved by the Contract Administrator prior to structure installation at the following bridge installation sites:

Road	Structure Location	Structure Type
MY-ML	STA 54+10 to 54+88	BRIDGE
MY-ML	STA 61+85 to 62+35	BRIDGE
MY-ML	STA 72+11 to 72+71	BRIDGE
MY-ML	STA 97+53 to 97+68	BRIDGE
MY-21	STA 6+92 to 7+42	BRIDGE

If it is necessary to pass equipment over open water prior to bridge structure installation at the locations listed above then this shall be addressed in the Erosion Control Plan. Equipment may pass over open water only if the drive mechanisms do not enter the channel.

11-2 PROTECTION OF FISH DURING STRUCTURE INSTALLATION

Best Management Practices for the protection of fish life and habitat shall be applied as described in the Forest Practices Board Manual Section 5 GUIDELINES FOR FOREST PRACTICES HYDRAULIC PROJECTS. All structure installation sites listed in 11-1 shall be either dewatered or have fish exclusion measures in place prior to installation.

Dewatering methods must be approved by the contract administrator which may include:

- Passive gravity flow bypass consistent with WAC 222-24-044
- Coffer dam and pump(s) equipped with screens to prevent injury of fish pursuant to RCW 77.57.010 and RCW 77.57.070.
- Isolation of water from work area

The purchaser shall maintain clean water by diverting the stream before it enters the construction site and returning the flow to the channel downstream from the project. Any water that appears within the installation area shall be captured and removed from the construction site. This wastewater may not be discharged directly into typed waters. Fish stranded in the bypass reach shall be safely removed to the flowing stream.

Where dewatering will not be used fish shall be excluded from the construction site in accordance with the Forest Practices Board Manual Chapter 5, Section 9 Fish Capture and Exclusion.

11-3 CONSTRUCTION WITHIN CHANNEL MIGRATION ZONE

On the following roads proposed within a channel migration zone, the typical section shall be constructed with an outsloped road surface of 3% without a ditch. Road work shall be completed with the goal of maintaining natural drainages:

Road	Stations
MY-ML	62+35 to 71+00
MY-12	0+00 to 7+08

Within swale locations listed below the maximum embankment (fill) depth permitted at centerline is 2.0 feet and must be removed during abandonment (see clause 9-24 HEAVY ABANDONMENT). The purchaser shall also construct rolling dips as listed in the MATERIALS LIST and in accordance with the ROLLING DIP DETAIL.

Road	Stations
MY-ML	63+70 to 65+70
MY-12	0+89 to 1+42
MY-12	2+59 to 3+27
MY-12	4+10 to 4+62
MY-12	5+20 to 5+70

11-4 STREAM BANK RESTORATION

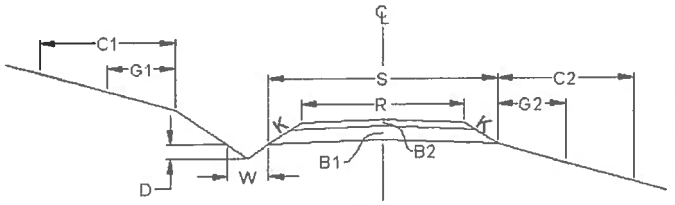
On the following road Purchaser shall perform work as directed in the STREAM BANK RESTORATION DETAIL.

Road	Stations
MY-RRG15	30+40 to 31+40

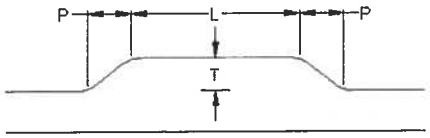
This work entails pulling back a poorly located orphaned grade embankment at a Type 4 stream crossing to reduce the risk of an avulsion hazard. Material removed from the channel shall be placed on the grade and shaped to mimic the natural bank above and below the orphaned grade. Additional material is available on site with written approval from the Contract Administrator. All work must be completed under the direction of a State Lands Geologist and District Engineer with approval by Forest Practices and WDFW.

ROAD #		MY-ML	MY-ML	MY-ML	MY-ML
REQUIRED / OPTIONAL		REQUIRED	REQUIRED	REQUIRED	REQUIRED
CONSTRUCT / RECONSTRUCT		MAINTENANCE	RECONSTRUCT	CONSTRUCT	CONSTRUCT
TOLERANCE CLASS (A/B/C)		C	C	A	C
STATION / MP TO		0+00	20+30	54+10	54+88
STATION / MP		20+30	54+10	54+88	61+85
ROAD WIDTH	R	-	12	14	12
CROWN (INCHES @ C/L)		-	3	78 FOOT SPAN, GRAVEL DECK, PRE-CONSTRUCTED, MODULAR TYPE, PAINTED STEEL BRIDGE AND PRE-CAST CONCRETE FOOTINGS	3
DITCH WIDTH	W	-	3		3
DITCH DEPTH	D	-	1		1
TURNOUT LENGTH	L	-	50		50
TURNOUT WIDTH	T	-	10		10
TURNOUT TAPER	P	-	25		25
GRUBBING	G1	-	5		5
	G2	-	5		5
CLEARING	C1	-	10		10
	C2	-	10		10
ROCK FILLSLOPE	K:1	-	1 ½		1 ½
❖ BALLAST DEPTH	B1	-	6	-	18
CUBIC YARDS / STATION		-	34	-	114
➢ TOTAL CY BALLAST		-	2450*	20[A]	800
❖ SURFACING DEPTH	B2	-	-	-	-
CUBIC YARDS / STATION		-	-	-	-
➢ TOTAL CY SURFACING		-	-	50[B]	-
➢ TOTAL CUBIC YARDS		-	2450*	70	800
SUBGRADE WIDTH	S	-	-	-	16.5
BRUSHCUT (Y/N)		Y	N	N/A	N/A
BLADE, SHAPE, & DITCH (Y/N)		N	Y**	N/A	N/A

TYPICAL SECTION



TURNOUT DETAIL (PLAN VIEW)



SYMBOL NOTES

❖ Specified Rock Depth is FINISHED COMPACTED DEPTH in inches.

➢ Specified Rock Quantity is LOOSE MEASURE (Truck Cubic Yards) needed to accomplish specified FINISHED COMPACTED DEPTH. Rock quantities include volume for turnouts, curve widening and landings.

* Quantity includes 1300 cubic yards of shot rock for road prism reconstruction and 1150 cubic yards 3-inch-minus ballast rock.
** Pull berms back into road subgrade prior to shot rock application.
[A] 3-inch-minus ballast for bridge approach.
[B] 1 ½-inch-minus crushed rock from a commercial source for bridge surfacing and a leveling course for precast concrete footings. See installation details on pages 45-50.
[C] New construction is located on an existing grade.

Rock Totals Summary

Type	Quantity (Cubic Yards)
Ballast	28,560
Rip Rap	1555
1 ½" minus	150
Shot rock	1300

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ROAD #		MY-ML	MY-ML	MY-ML [C]	MY-ML	MY-ML [C]	MY-ML	MY-ML [C]	MY-ML
REQUIRED / OPTIONAL		REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED
CONSTRUCT / RECONSTRUCT		CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT
TOLERANCE CLASS (A/B/C)		A	C	C	A	C	C	C	C
STATION / MP TO		61+85	62+35	67+33	72+11	72+71	81+64	86+57	94+27
STATION / MP		62+35	67+33	72+11	72+71	81+64	86+57	94+27	97+53
ROAD WIDTH	R	16	12	12	14	12	12	12	12
CROWN (INCHES @ C/L)		50 FOOT SPAN, GRAVEL DECK, PRE-CONSTRUCTED, MODULAR TYPE, PAINTED STEEL BRIDGE AND PRE-CAST CONCRETE FOOTINGS	3	3	60 FOOT SPAN, GRAVEL DECK, PRE-CONSTRUCTED, MODULAR TYPE STEEL BRIDGE AND PRECAST CONCRETE FOOTING WITH STEEL TOWER ASSEMBLY	3	3	3	3
DITCH WIDTH	W		3	3		3	3	3	3
DITCH DEPTH	D		1	1		1	1	1	1
TURNOUT LENGTH	L		50	50		50	50	50	50
TURNOUT WIDTH	T		10	10		10	10	10	10
TURNOUT TAPER	P		25	25		25	25	25	25
GRUBBING	G1		5	5		5	5	5	5
	G2		5	5		5	5	5	5
CLEARING	C1		10	10		10	10	10	10
	C2		10	10		10	10	10	10
ROCK FILLSLOPE	K:1		1 ½	1 ½		1 ½	1 ½	1 ½	1 ½
❖ BALLAST DEPTH	B1	-	18	12	-	12	18	12	18
CUBIC YARDS / STATION		-	114	72	-	72	114	72	114
➢ TOTAL CY BALLAST		20[A]	580	350	20[A]	650	570	560	380
❖ SURFACING DEPTH	B2	-	-	-	-	-	-	-	-
CUBIC YARDS / STATION		-	-	-	-	-	-	-	-
➢ TOTAL CY SURFACING		40[B]	-	-	20[B]	-	-	-	-
➢ TOTAL CUBIC YARDS		60	580	350	40	650	570	560	380
SUBGRADE WIDTH	S	-	16.5	15	-	15	16.5	15	16.5
BRUSHCUT (Y/N)		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLADE, SHAPE, & DITCH (Y/N)		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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ROAD #		MY-ML	MY-ML	MY-ML [C]	MY-ML	MY-04	MY-12	MY-21	MY-21
REQUIRED / OPTIONAL		REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	OPTIONAL	REQUIRED	REQUIRED
CONSTRUCT / RECONSTRUCT		CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	MAINTENANCE	CONSTRUCTION	CONSTRUCT	CONSTRUCT
TOLERANCE CLASS (A/B/C)		A	C	C	C	C	C	C	C
STATION / MP TO		97+53	97+68	182+56	185+17	0+00	0+00	0+00	6+92
STATION / MP		97+68	182+56	185+17	234+31	156+70	10+09	6+92	7+42
ROAD WIDTH	R	16	12	12	12	-	12	12	14
CROWN (INCHES @ C/L)		CONCRETE SLAB BRIDGE WITH PRECAST WALL ABUTMENT	3	3	3	-	3	3	50 FOOT SPAN, WOOD DECK PRE-CONSTRUCTED, MODULAR TYPE, PAINTED STEEL BRIDGE AND PRE-CAST CONCRETE FOOTINGS
DITCH WIDTH	W		3	3	3	-	2	3	
DITCH DEPTH	D		1	1	1	-	1	1	
TURNOUT LENGTH	L		50	50	50	-	25	50	
TURNOUT WIDTH	T		10	10	10	-	10	10	
TURNOUT TAPER	P		25	25	25	-	25	25	
GRUBBING	G1		5	5	5	-	5	5	
	G2		5	5	5	-	5	5	
CLEARING	C1		10	10	10	-	10	10	
	C2		10	10	10	-	10	10	
ROCK FILLSLOPE	K:1		1 ½	1 ½	1 ½	-	1 ½	1 1/2	
❖ BALLAST DEPTH	B1	-	18	12	18	-	12	18	-
CUBIC YARDS / STATION		-	114	72	114	-	72	114	-
➢ TOTAL CY BALLAST		-	9700	190	5,610	-	730	560	-
❖ SURFACING DEPTH	B2	-	-	-	-	-	-		-
CUBIC YARDS / STATION		-	-	-	-	-	-		-
➢ TOTAL CY SURFACING		20[B]	-	-	-	-	-		20[B]
➢ TOTAL CUBIC YARDS		20[B]	9700	190	5,610	-	730	560	20[B]
SUBGRADE WIDTH	S	-	16.5	15.0	16.5	-	15.0	16.5	-
BRUSHCUT (Y/N)		N/A	N/A	N/A	N/A	Y	N/A	N/A	N/A
BLADE, SHAPE, & DITCH (Y/N)		N/A	N/A	N/A	N/A	N	N/A	N/A	N/A

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ROAD #		MY-21	MY-2104	MY-2104-01	MY-2106	MY-43			
REQUIRED / OPTIONAL		REQUIRED	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL			
CONSTRUCT / RECONSTRUCT		CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT			
TOLERANCE CLASS (A/B/C)		C	C	C	C	C			
STATION / MP TO		7+42	0+00	0+00	0+00	0+00			
STATION / MP		39+76	11+91	8+11	16+53	9+40			
ROAD WIDTH	R	12	12	12	12	12			
CROWN (INCHES @ C/L)		3	3	3	3	3			
DITCH WIDTH	W	3	2	2	2	2			
DITCH DEPTH	D	1	1	1	1	1			
TURNOUT LENGTH	L	50	25	25	25	25			
TURNOUT WIDTH	T	10	10	10	10	10			
TURNOUT TAPER	P	25	25	25	25	25			
GRUBBING	G1	5	5	5	5	5			
	G2	5	5	5	5	5			
CLEARING	C1	10	10	10	10	10			
	C2	10	10	10	10	10			
ROCK FILLSLOPE	K:1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2			
❖ BALLAST DEPTH	B1	18	12	12	12	6			
CUBIC YARDS / STATION		114	72	72	72	34			
➢ TOTAL CY BALLAST		3700	860	590	1200	320			
❖ SURFACING DEPTH	B2	-	-	-	-	-			
CUBIC YARDS / STATION		-	-	-	-	-			
➢ TOTAL CY SURFACING		-	-	-	-	-			
➢ TOTAL CUBIC YARDS		3700	860	590	1200	320			
SUBGRADE WIDTH	S	16.5	15	15	15	13.5			
BRUSHCUT (Y/N)		N/A	N/A	N/A	N/A	N/A			
BLADE, SHAPE, & DITCH (Y/N)		N/A	N/A	N/A	N/A	N/A			

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MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			**Note:** Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter: Diameter / Gage / Corrugation 18" / 16 / 2 2/3" x 1/2" 24" – 48" / 14 / 2 2/3" x 1/2" 54" – 96" / 14 / 3" x 1"
MY-ML	23+30	18	34	XX			2	3	L	NT	C	
	26+30	18	34	XX			2	3	L	NT	C	
	29+05	18	34	XX			2	3	L	NT	C	
	30+90	18	34	XX			2	3	L	NT	C	
	35+50	18	34	XX			2	3	L	NT	C	
	38+50	18	34	XX			2	3	L	NT	C	
	39+90	18	34	XX			2	3	L	NT	C	
	41+10	18	34	XX			2	3	L	NT	C	
	42+50	18	34	XX			2	3	L	NT	C	
	47+20	18	34	XX			2	3	L	NT	C	
	52+30	18	34	XX			2	3	L	NT	C	
	54+07	-	-	-	-	-	-	-	-	-	-	Install steel gate. See 7-76 GATE INSTALLATION and STEEL GATE DETAIL
	54+10 to 54+88	78 FOOT SPAN, PRE-CONSTRUCTED, MODULAR TYPE, PAINTED STEEL BRIDGE AND PRE-CAST CONCRETE FOOTINGS					50 --	-- 50	O/H /L	NT	A	See clauses 11.1, 11.2 and DETAILS for BRIDGE SITE #1.
	55+36	-	-	-	-	-	-	-	-	-	-	Start geotextile.
	56+87	-	-	-	-	-	-	-	-	-	-	End geotextile.
	57+10	-	-	-	-	-	-	-	-	-	-	Ditchout
	57+61	18	30	XX			2	3	L	NT	C	
	58+22	18	30	XX			2	3	L	NT	C	

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

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MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			**Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:** **Diameter / Gage / Corrugation** **18" / 16 / 2 2/3" x 1/2"** **24" – 48" / 14 / 2 2/3" x 1/2"** **54" – 96" / 14 / 3" x 1"**
MY-ML (cont'd)	59+36	18	30	XX			2	3	L	NT	C	
	59+97	18	30	XX			2	3	L	NT	C	
	60+67 to 60+97	-	-	-			-	-	-	-	-	Install 2 check dams, see clause 8-5 CHECK DAM.
	61+85 to 62+35	**50 FOOT SPAN, PRE-CONSTRUCTED, MODULAR TYPE, PAINTED STEEL BRIDGE AND PRE-CAST CONCRETE FOOTINGS**					40 --	-- 40	H/L	NT	A	See sections 11.1, 11.2, and DETAILS for BRIDGE SITE #2.
	64+70	18	44	XX			5	7	L	SR	C	Install rolling dip. See ROLLING DIP DETAIL.
	68+33	18	44	XX			8	12	L	NT	C	
	72+11 to 72+71	**60 FOOT SPAN, PRE-CONSTRUCTED, STEEL BRIDGE AND PRECAST CONCRETE FOOTING WITH STEEL TOWER ASSEMBLY**					60 --	-- 60	H/L	NT	A	See clauses 11.1, 11.2 and DETAILS BRIDGE SITE #3.
	73+80	18	34	XX			3	5	L	NT	C	
	77+20	24	40	GM			5	7	L/H	NT	C	
	78+89	24	36	GM			5	7	L/H	NT	C	
	79+48	18	34	XX			3	5	L	NT	C	
	81+64	18	42	XX			5	7	L	NT	C	Align to capture ditchwater from existing grade.
	83+56	18	42	XX			5	7	L	NT	C	
	94+27	18	36	XX			5	7	L	NT	C	
	95+21	18	36	XX			3	5	L	NT	C	
	96+64	18	34	XX			3	5	L	NT	C	
	97+53 to 97+68	**15' CONCRETE SLAB BRIDGE, PRECAST WALL ABUTMENT**										See design details for BRIDGE SITE #4

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

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MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter: Diameter / Gage / Corrugation 18" / 16 / 2 2/3" x 1/2" 24" – 48" / 14 / 2 2/3" x 1/2" 54" – 96" / 14 / 3" x 1"
MY-ML (cont'd)	98+28	18	34	XX			2	3	L	NT	C	
	99+45	24	34	GM			3	5	L/H	NT	C	
	102+00	18	36	XX			2	3	L	NT	C	
	107+46	-	-	-	-	-	-	-	-	-	-	Ditchout
	111+68	18	36	XX			2	3	L	NT	C	
	115+72	24	34	GM			3	5	L/H	NT	C	
	116+13	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	117+02	30	36	GM			8	12	L/H	NT	C	Stream
	117+53	-	-	-	-	-	-	-	-	-	-	End full bench construction
	118+45	18	36	XX			3	5	L	NT	C	
	120+26	-	-	-	-	-	-	-	-	-	-	Ditchout
	122+19	18	34	XX			2	3	L	NT	C	
	123+24	-	-	-	-	-	-	-	-	-	-	Start geotextile
	124+66	30	32	GM			8	10	L/H	NT	C	Stream
	125+26	18	32	XX			2	3	L	NT	C	
	125+92	-	-	-	-	-	-	-	-	-	-	End geotextile
	131+47	18	32	XX			2	3	L	NT	C	
	134+16	-	-	-	-	-	-	-	-	-	-	Ditchout
	136+33	18	36	XX			2	3	L	NT	C	
	139+75	18	36	XX			2	3	L	NT	C	
	145+79	18	32	XX			2	3	L	NT	C	
	148+59	18	36	XX			3	5	L	NT	C	

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

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MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter: Diameter / Gage / Corrugation 18" / 16 / 2 2/3" x 1/2" 24" – 48" / 14 / 2 2/3" x 1/2" 54" – 96" / 14 / 3" x 1"
MY-ML (cont'd)	150+56	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	151+40	18	32	XX			3	5	L	NT	C	
	153+63	18	32	XX			3	5	L	NT	C	
	155+18	-	-	-	-	-	-	-	-	-	-	End full bench construction.
	156+11	18	36	XX			3	5	L	NT	C	
	157+75	24	36	GM			3	5	L/H	NT	C	
	159+81	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	160+21	18	32	XX			3	5	L	NT	C	End full bench construction.
	160+53 to 162+02	-	-	-	-	-	40	350	L/H	-	-	See clause 8-10 STABILIZE SLOPES
	162+28	-	-	-	-	-	-	-	-	-	-	Ditchout
	164+41	18	36	XX			3	5	L	NT	C	
	165+90	24	36	GM			3	5	L/H	NT	C	
	168+10	18	36	GM			2	3	L	NT	C	
	169+16	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	171+15	18	32	GM			2	3	L	NT	C	End full bench construction.
	174+32	18	36	GM			2	3	L	NT	C	
	174+68	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	176+79	18	32	GM			2	3	L	NT	C	
	179+00	-	-	-	-	-	-	-	-	-	-	End full bench construction.

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

28173 40

MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter: Diameter / Gage / Corrugation: 18" / 16 / 2 2/3" x 1/2"; 24" – 48" / 14 / 2 2/3" x 1/2"; 54" – 96" / 14 / 3" x 1"
MY-ML (cont'd)	181+95	18	36	GM			3	5	L	NT	C	
	183+23	-	-	-	-	-	-	-	-	-	-	Ditchout onto existing grade
	185+17	-	-	-	-	-	-	-	-	-	-	Intercept ditchline of existing grade and ditchout.
	185+80	18	36	GM	20	GM	3	7	L	NT	C	Downspout releases to existing grade
	188+61	18	40	GM			3	5	L	NT	C	
	193+02	-	-	-	-	-	-	-	-	-	-	Ditchout
	196+53	18	36	GM			3	5	L	NT	C	
	197+16	-	-	-	-	-	-	-	-	-	-	Start geotextile
	198+34	18	32	XX			2	3	L	NT	C	
	199+43	18	36	GM			2	3	L	NT	C	
	200+99	-	-	-	-	-	-	-	-	-	-	Ditchout, end geotextile.
	203+65	-	-	-	-	-	-	-	-	-	-	Ditchout onto existing grade
	204+95	18	32	XX			2	3	L	NT	C	
	206+94	24	32	GM			3	5	L	NT	C	
	210+55	24	36	GM			5	7	L	NT	C	
	214+65	18	36	GM			2	3	L	NT	C	
	217+50	18	36	GM			3	5	L	NT	C	
	221+65	18	32	GM			2	3	L	NT	C	
	226+02	-	-	-	-	-	-	-	-	-	-	Ditchout onto existing grade
	227+85	18	32	XX			2	3	L	NT	C	
	231+40	-	-	-	-	-	-	-	-	-	-	Ditchout

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
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2817340

MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter: Diameter / Gage / Corrugation 18" / 16 / 2 2/3" x 1/2" 24" – 48" / 14 / 2 2/3" x 1/2" 54" – 96" / 14 / 3" x 1"
MY-12	1+11	18	32	XX			2	3	L	SR	C	
	1+42	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	1+81	-	-	-	-	-	-	-	-	-	-	End full bench construction.
	3+27	18	32	XX			2	3	L	SR	C	Install rolling dip. See ROLLING DIP DETAIL.
	3+57	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	3+88	-	-	-	-	-	-	-	-	-	-	End full bench construction.
	4+24	18	32	XX			2	3	L	SR	C	Install rolling dip. See ROLLING DIP DETAIL.
	4+62	-	-	-	-	-	-	-	-	-	-	Begin full bench construction. (See clause 4-12.)
	4+90	-	-	-	-	-	-	-	-	-	-	End full bench construction.
	5+21	18	32	XX			2	3	L	SR	C	Install rolling dip. See ROLLING DIP DETAIL.
	6+30	24	32	XX			3	5	L	SR	C	
	7+07	18	32	XX			2	3	L	SR	C	
	9+17	18	36	XX			2	3	L	SR	C	

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

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MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter: Diameter / Gage / Corrugation 18" / 16 / 2 2/3" x 1/2" 24" – 48" / 14 / 2 2/3" x 1/2" 54" – 96" / 14 / 3" x 1"
MY-21	5+34	18	36	XX			3	5	L	NT	C	
	6+92 to 7+42	50 FOOT SPAN, WOOD DECK PRE-CONSTRUCTED, MODULAR TYPE, PAINTED STEEL BRIDGE AND PRE-CAST CONCRETE FOOTINGS					40	--	L/H	NT	A	See design details for BRIDGE SITE #5.
							--	50				
	10+45	18	34	XX			3	5	L	NT	C	
	12+18	18	34	XX			3	5	L	NT	C	
	14+74	18	36	XX			3	5	L	NT	C	
	18+36	18	30	XX			2	5	L	NT	C	
	19+56	18	34	GM	24	XX	3	5	L	NT	C	
	21+00	18	36	XX			3	5	L	NT	C	
	22+42	-	-	-	-	-	-	-	-	-	-	Start geotextile
	22+93	18	32	XX			3	5	L	NT	C	
	24+02	-	-	-	-	-	-	-	-	-	-	End geotextile
	25+39	-	-	-	-	-	-	-	-	-	-	Start geotextile
	25+96	18	32	XX			2	3	L	NT	C	
	27+84	36	36	XX			8	12	L/H	NT	C	Stream
	28+49	18	34	XX			3	5	L	NT	C	End geotextile
	29+17	-	-	-	-	-	-	-	-	-	-	Ditchout
	32+80	18	34	XX			2	5	L	NT	C	
	35+64	18	34	XX			3	5	L	NT	C	

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

2817240

MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter: Diameter / Gage / Corrugation: 18" / 16 / 2 2/3" x 1/2"; 24" – 48" / 14 / 2 2/3" x 1/2"; 54" – 96" / 14 / 3" x 1"
MY-2104	3+73	18	34	XX			3	5	L	NT	C	
	5+66	-	-	-	-	-	-	-	-	-	-	Start geotextile
	5+88	24	34	XX			5	7	L/H	NT	C	
	7+83	18	34	XX			3	5	L	NT	C	End geotextile
	9+45	18	34	XX			3	5	L	NT	C	
	11+76	-	-	-	-	-	-	-	-	-	-	Ditchout
MY-2104-01	0+60	18	36	XX			3	5	L	NT	C	
	1+14	24	40	XX			5	12	L/H	NT	C	Stream
	3+98	18	32	XX			3	5	L	NT	C	
	4+68	18	36	XX			3	5	L	NT	C	
	5+19	30	36	XX			8	12	L/H	NT	C	Stream
	6+57	18	32	XX			3	5	L	NT	C	
MY-2106	3+10	18	34	XX			2	5	L	NT	C	
	6+18	18	34	XX			3	5	L	NT	C	
	8+15	18	36	XX			3	5	L	NT	C	
	12+22	18	36	XX			3	5	L	NT	C	
	15+42	18	34	XX			3	5	L	NT	C	
MY-43	9+40	-	-	-	-	-	-	-	-	-	-	Ditchout

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FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the construction materials. Remove slides from ditches and the roadway. Repair fill-failures, in accordance with Clause 4-6 EMBANKMENT SLOPE RATIO, with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

- Grade and shape the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET. Inslope or outslope as directed to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away, or as directed by the Contract Administrator.
- Remove shoulder berms, created by grading, to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

Drainage

- Prevent silt bearing road surface and ditch runoff from delivering sediment to any streams or wetlands.
- Maintain rolling dips and drivable waterbars as needed to keep them functioning as intended.
- Maintain headwalls to the road shoulder level with material that will resist erosion.
- Maintain energy dissipaters at culvert outlets with non-erodible material or rock.
- Keep ditches, culverts, and other drainage structures clear of obstructions and functioning as intended.
- Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This shall be done even during periods of inactivity.

Preventative Maintenance

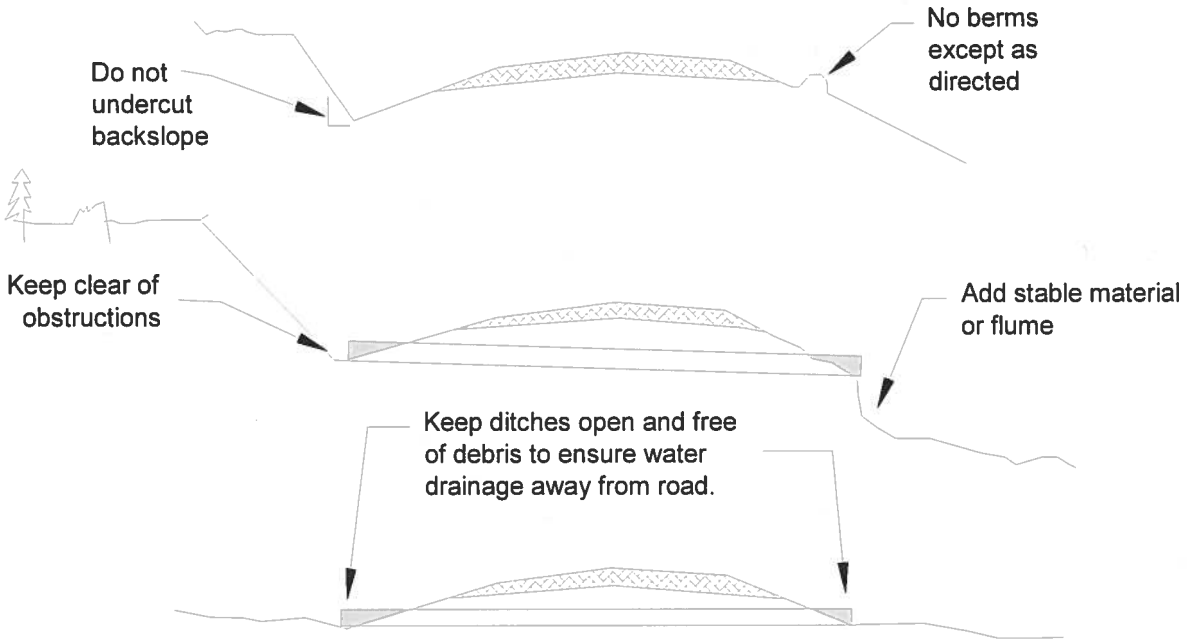
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



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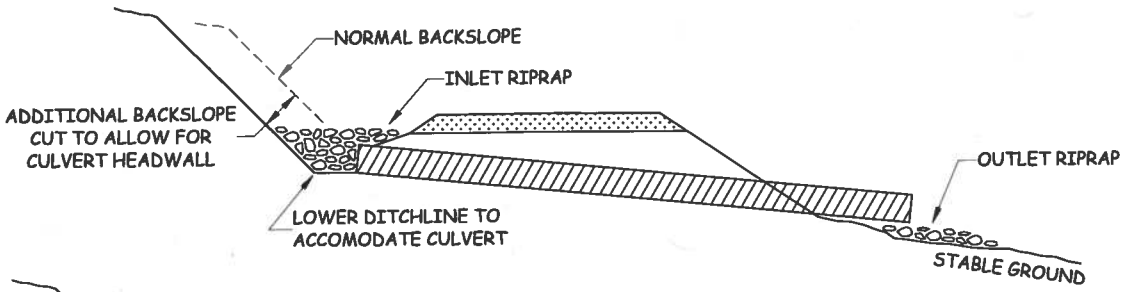
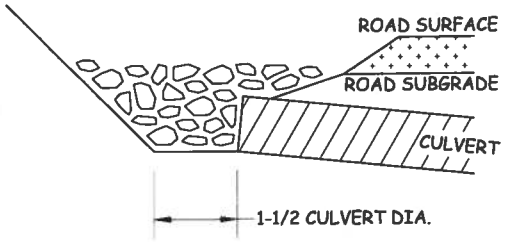
CULVERT AND DRAINAGE SPECIFICATIONS

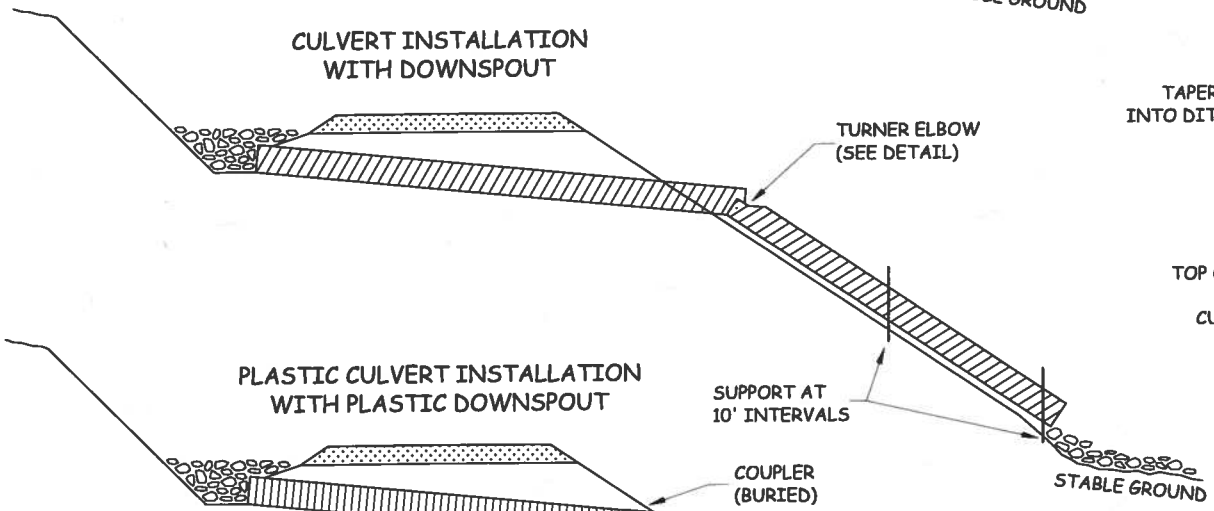
CULVERT INSTALLATION (TYPICAL)



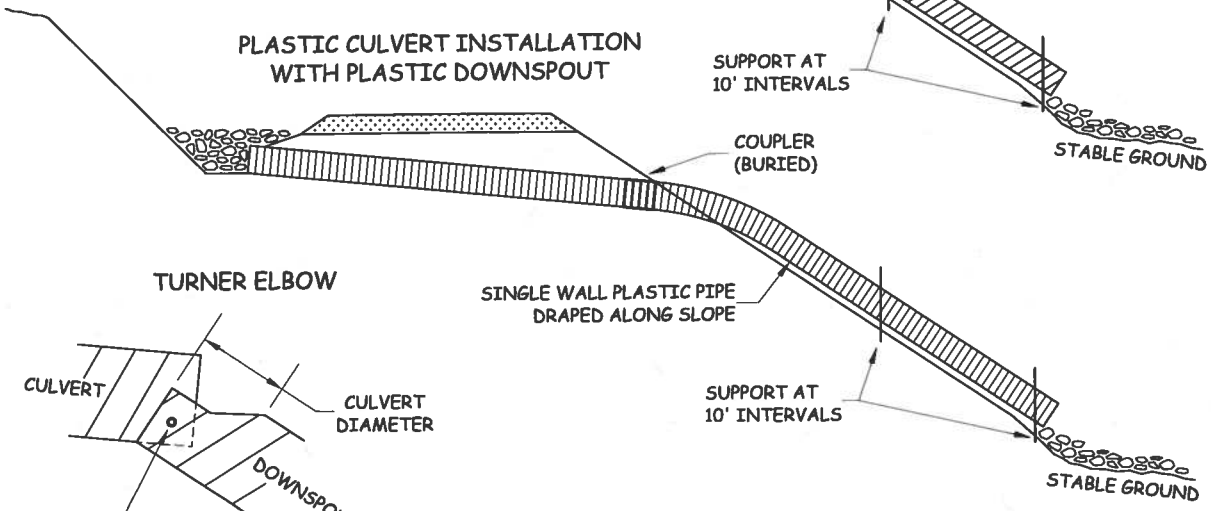
CULVERT HEADWALL - SECTION VIEW



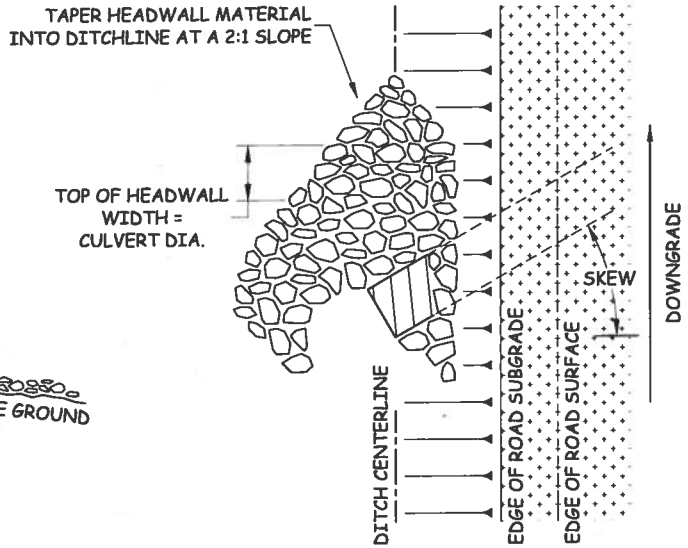
CULVERT INSTALLATION WITH DOWNSPOUT



PLASTIC CULVERT INSTALLATION WITH PLASTIC DOWNSPOUT



CULVERT HEADWALL - PLAN VIEW



TURNER ELBOW

HEADWALL NOTE:

HEADWALL TO BE CONSTRUCTED OF IMPERVIOUS MATERIAL THAT WILL RESIST EROSION AND ARMORED WITH RIPRAP QUANTITY SPECIFIED IN ROAD PLAN.

CONTRACT #	PROJECT	SHEET
30 -100161	MIDDLE MAY	55 OF 84

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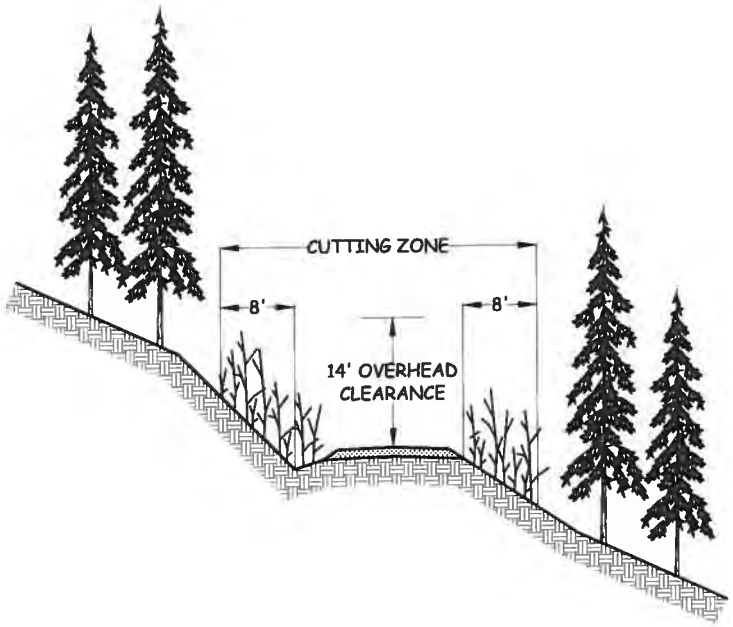
ROAD BRUSHING DETAILS



SPECIFICATIONS

BRUSH SHALL BE CUT ON THE ROAD SURFACE AND 8 ft. BACK FROM ROAD DITCH AND OUTSIDE EDGE OF RUNNING SURFACE.

ON THE INSIDE OF SWITCHBACKS AND TIGHT CURVES, BRUSH SHALL BE CUT BACK 16 ft. FOR VISIBILITY.

ON TRUCK TURNOUTS, BRUSH SHALL BE CUT 8 ft. BACK FROM OUTSIDE EDGE.

BRUSH SHALL BE CUT TO PROVIDE AN OVERHEAD CLEARANCE OF 14 ft. ABOVE THE ROAD RUNNING SURFACE.

BRUSH SHALL BE CUT TO WITHIN 6 in. OF THE GROUND.

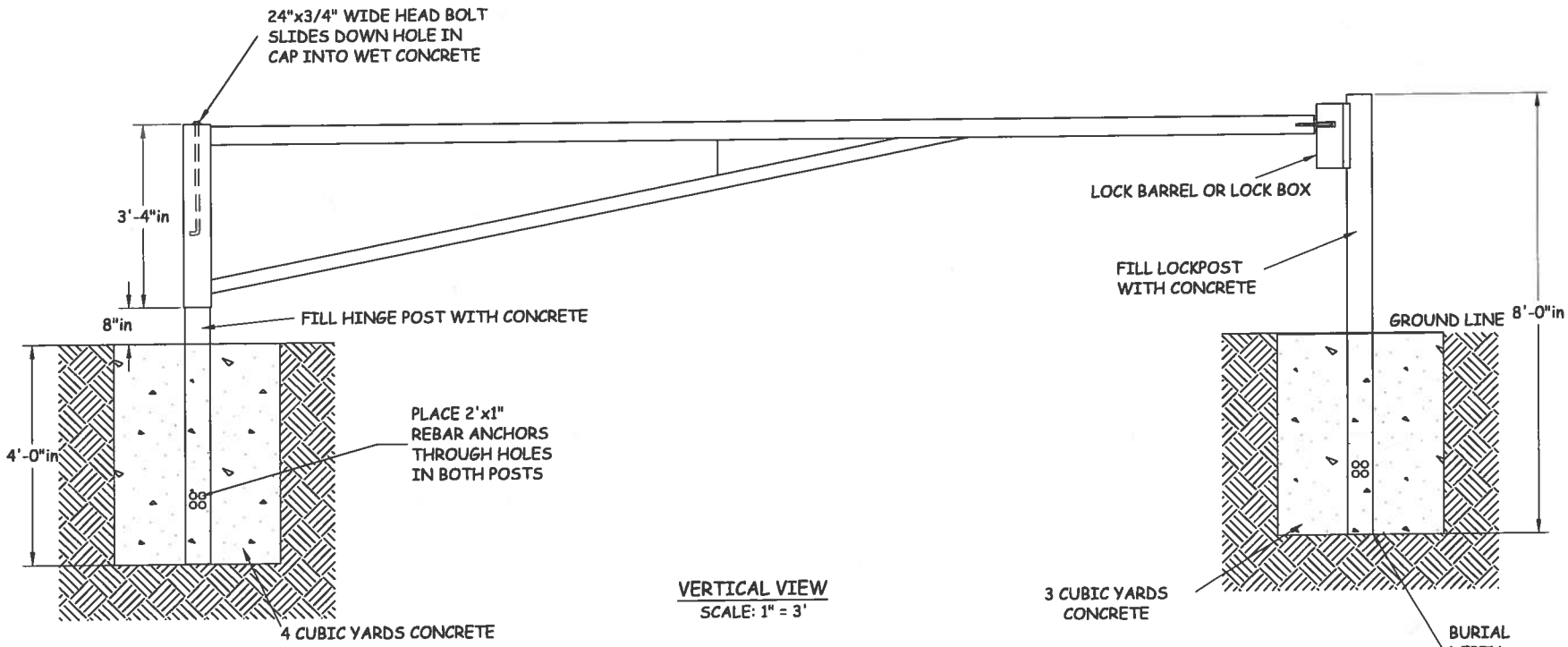
SLASH SHALL BE REMOVED FROM CUT SLOPES ABOVE THE ROAD AND SCATTERED ON EMBANKMENT SLOPES.

DITCHES SHALL BE CLEARED OF WOODY DEBRIS.

CULVERT INLETS AND OUTLETS SHALL BE CLEANED A MINIMUM DISTANCE OF TWO PIPE DIAMETERS AWAY.

STEEL GATE INSTALLATION

MY-ML 54+06



VERTICAL VIEW
SCALE: 1" = 3'

CONSTRUCTION NOTES

1. ALL WELDS ARE FILLET WELDS.
2. ACTUAL LOCATION SHALL BE DESIGNATED BY THE CONTRACT ADMINISTRATOR.
3. ALL CONCRETE SHALL MEET MINIMUM REQUIREMENTS FOR CLASS B CONCRETE.

CONTRACT #	PROJECT	SHEET
30 -100161	MIDDLE MAY	57 OF 84

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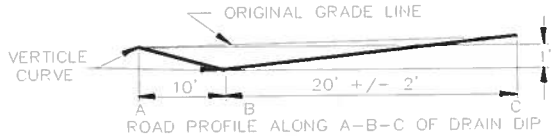
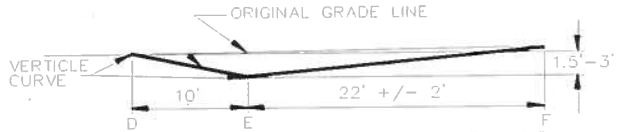
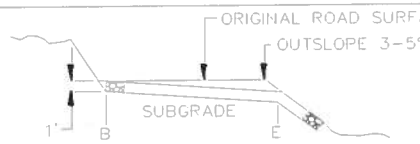
ROLLING DIP DETAIL



ROAD PROFILE ALONG A-B-C OF DRAIN DIP

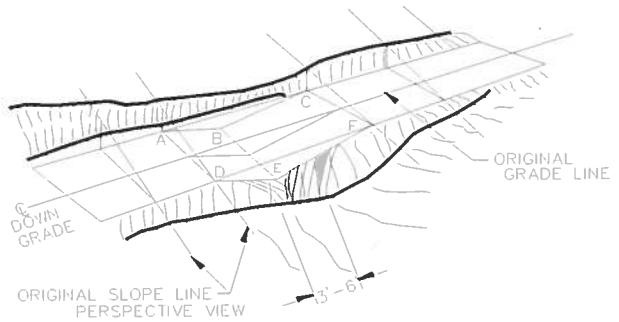


ROAD PROFILE ALONG D-E-F OF DRAIN DIP



OUTLET OF DIP TO BE CLEAR OF OBSTRUCUTIONS TO ALLOW WATER TO FLOW FREELY. IF SOILS ARE ERODABLE, TOE OF DIP TO BE ARMORED WITH NATIVE ROCK.

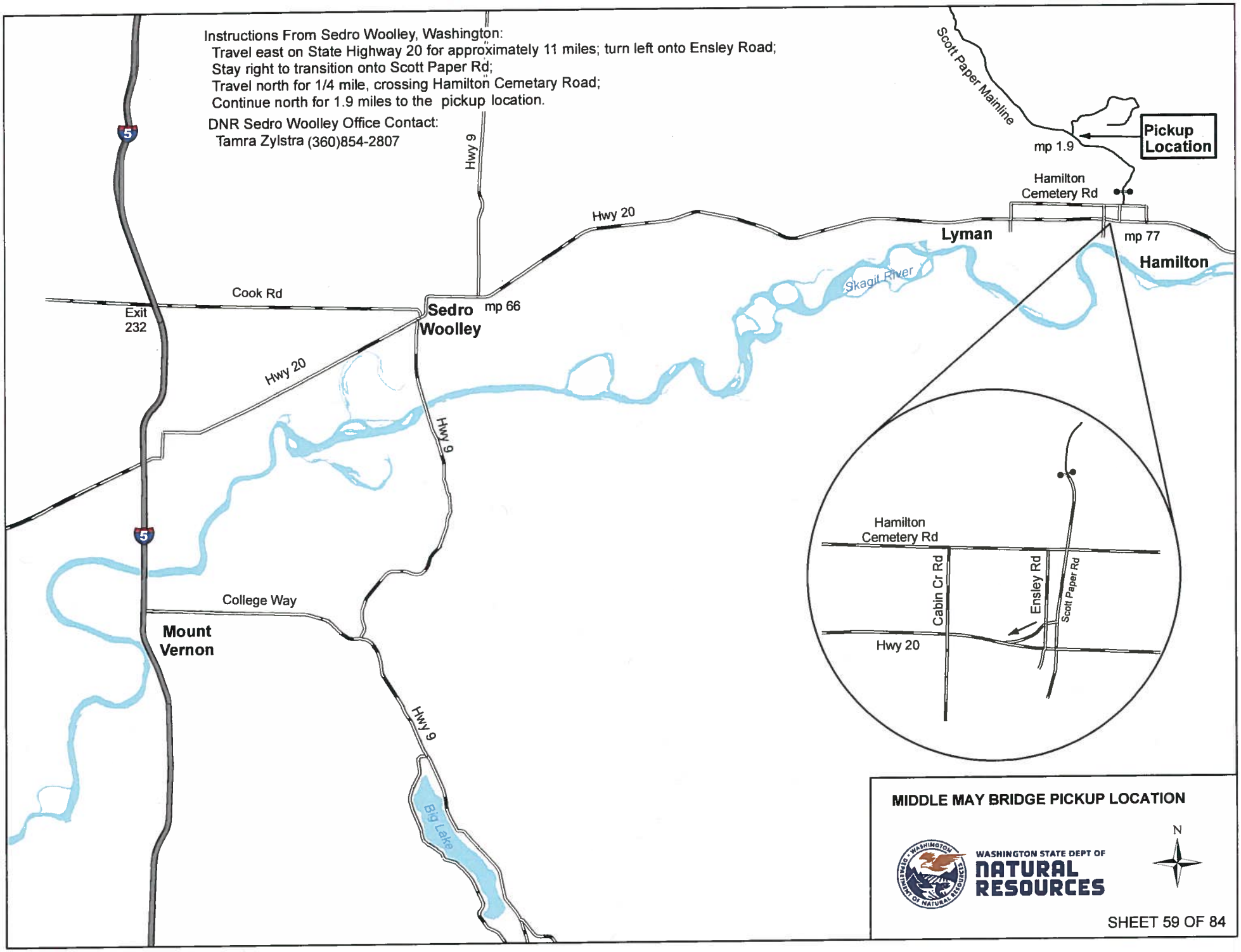
NOTE PLAN OF DIP SHOWN IS FOR OUTSLOPED ROLLING DIP. DIPS MAY BE EITHER INSLOPED OR OUTSLOPED. WHEN INSLOPED, DIPS SHALL DRAIN FREELY INTO DITCHES OR CULVERT INLETS. WHEN OUTLSLOPED, THEY SHALL DRAIN FREELY ONTO NATURAL GROUND WHERE SOILS ARE ERODABLE, OUTLET SHALL BE ARMOPED WITH NATIVE ROCK THE MINIMUM CROSS GRADE FROM "B" TO "E" IS 4% GREATER THAN THE ROAD SURFACE SLOPE. SKEW LINE B-E TO FIT LOW POINT IN DRAW, IF LOCATED IN NATURAL DRAIN



PERSPECTIVE VIEW

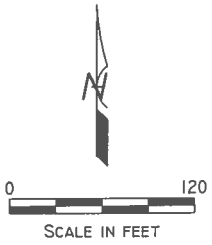
CONTRACT:
30 -100161

TIMBER SALE:
MIDDLE MAY


Instructions From Sedro Woolley, Washington:
Travel east on State Highway 20 for approximately 11 miles; turn left onto Ensley Road;
Stay right to transition onto Scott Paper Rd;
Travel north for 1/4 mile, crossing Hamilton Cemetary Road;
Continue north for 1.9 miles to the pickup location.
DNR Sedro Woolley Office Contact:
Tamra Zylstra (360)854-2807
Scott Paper Mainline
Pickup Location
mp 1.9
Hamilton Cemetery Rd
Hwy 9
Hwy 20
Lyman
mp 77
Hamilton
Skagit River
Cook Rd
Exit 232
Sedro Woolley
mp 66
Hwy 20
Hwy 9
College Way
Mount Vernon
Hwy 9
Big Lake
Hamilton Cemetery Rd
Cabin Cr Rd
Ensley Rd
Scott Paper Rd
Hwy 20
MIDDLE MAY BRIDGE PICKUP LOCATION
WASHINGTON STATE DEPT OF NATURAL RESOURCES
N
SHEET 59 OF 84

2817340

BRIDGE SITE #1
78'X14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 54+10 TO 54+88
SITE OVERVIEW



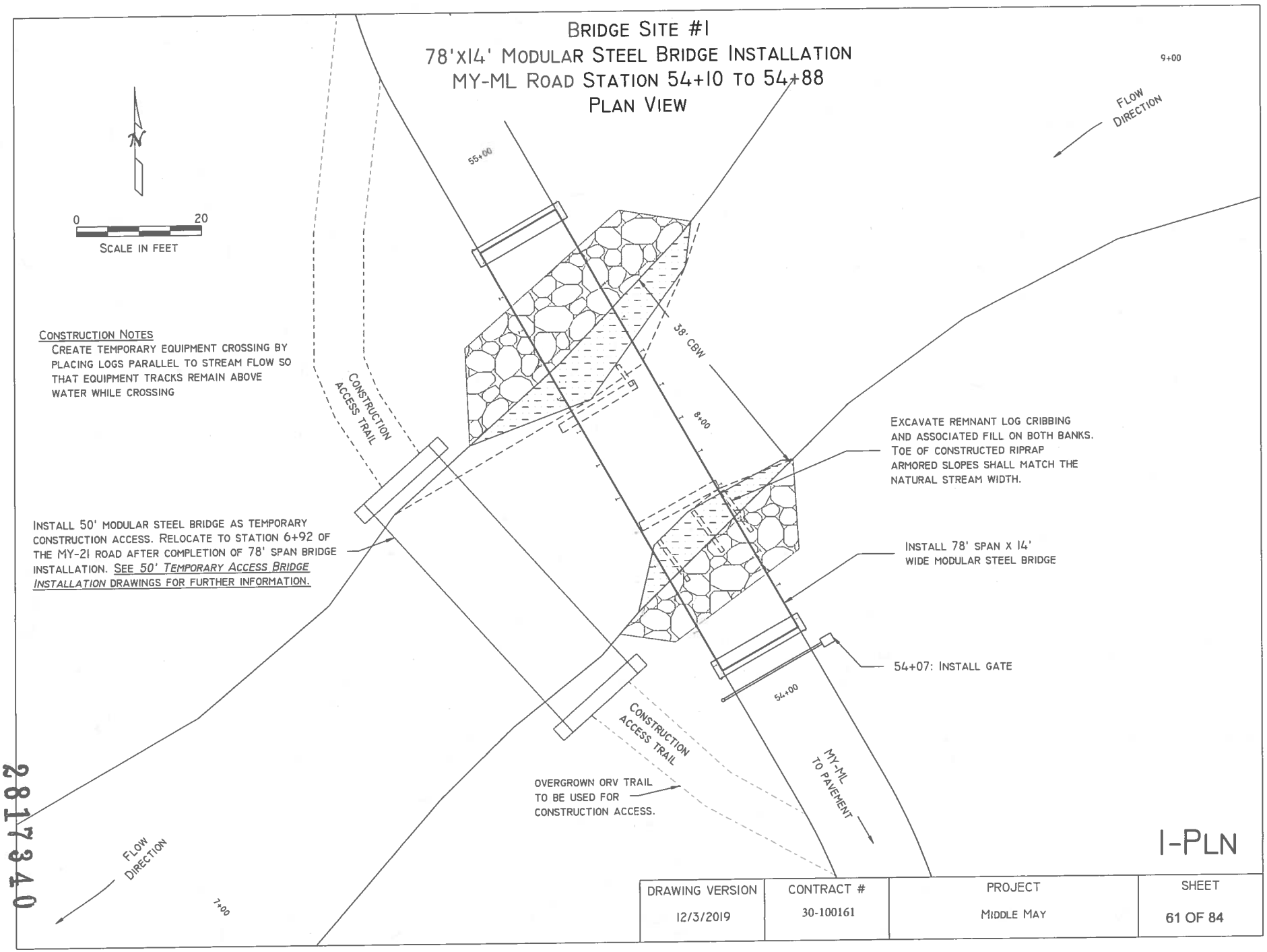
FPA NOTES:
1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 38', BASED ON 7 MEASUREMENTS DOWNSTREAM OF THE BRIDGE SITE.
3. THE DESIGN PROVIDES 6' CLEARANCE ABOVE A Q100 WATER ELEVATION OF 90.5'.
4. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
5. LOCATION:
   MY-ML ROAD STATION 54+10 TO 54+88
   T27N R9E SEC3
   N47.85747, W121.63587

STREAM PROFILE
(10X VERTICAL EXAGGERATION)

2017394

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	60 OF 84

BRIDGE SITE #1
78'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 54+10 TO 54+88
PLAN VIEW



CONSTRUCTION NOTES

CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

INSTALL 50' MODULAR STEEL BRIDGE AS TEMPORARY CONSTRUCTION ACCESS. RELOCATE TO STATION 6+92 OF THE MY-21 ROAD AFTER COMPLETION OF 78' SPAN BRIDGE INSTALLATION. SEE *50' TEMPORARY ACCESS BRIDGE INSTALLATION* DRAWINGS FOR FURTHER INFORMATION.

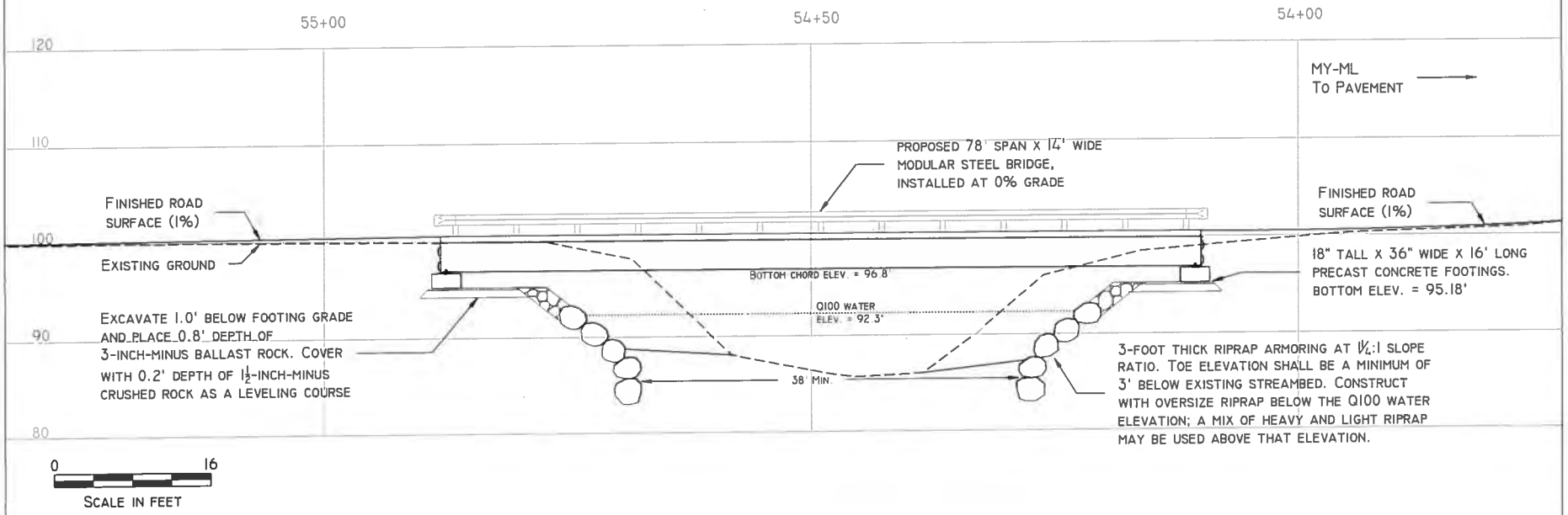
28173 40

I-PLN

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	61 OF 84

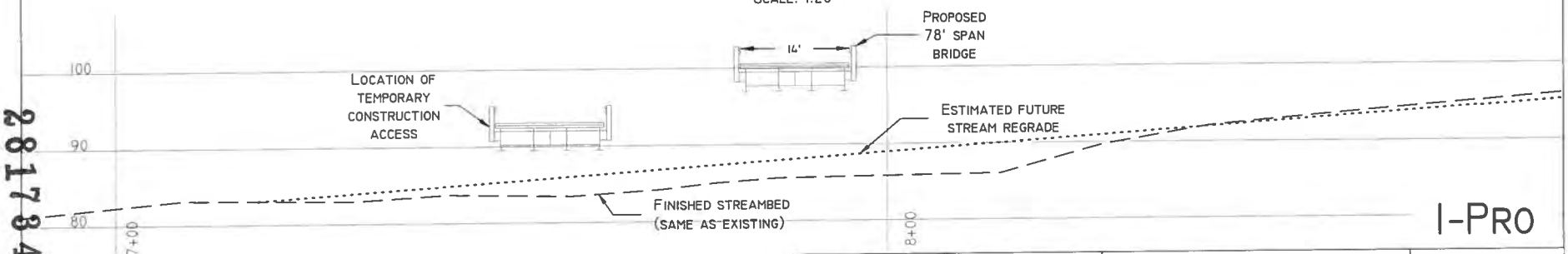
Bridge Site #1
78'x14' Modular Steel Bridge Installation
MY-ML Road Station 54+10 to 54+88

Bridge Profile - Looking Upstream



Bridge Section

Scale: 1:20



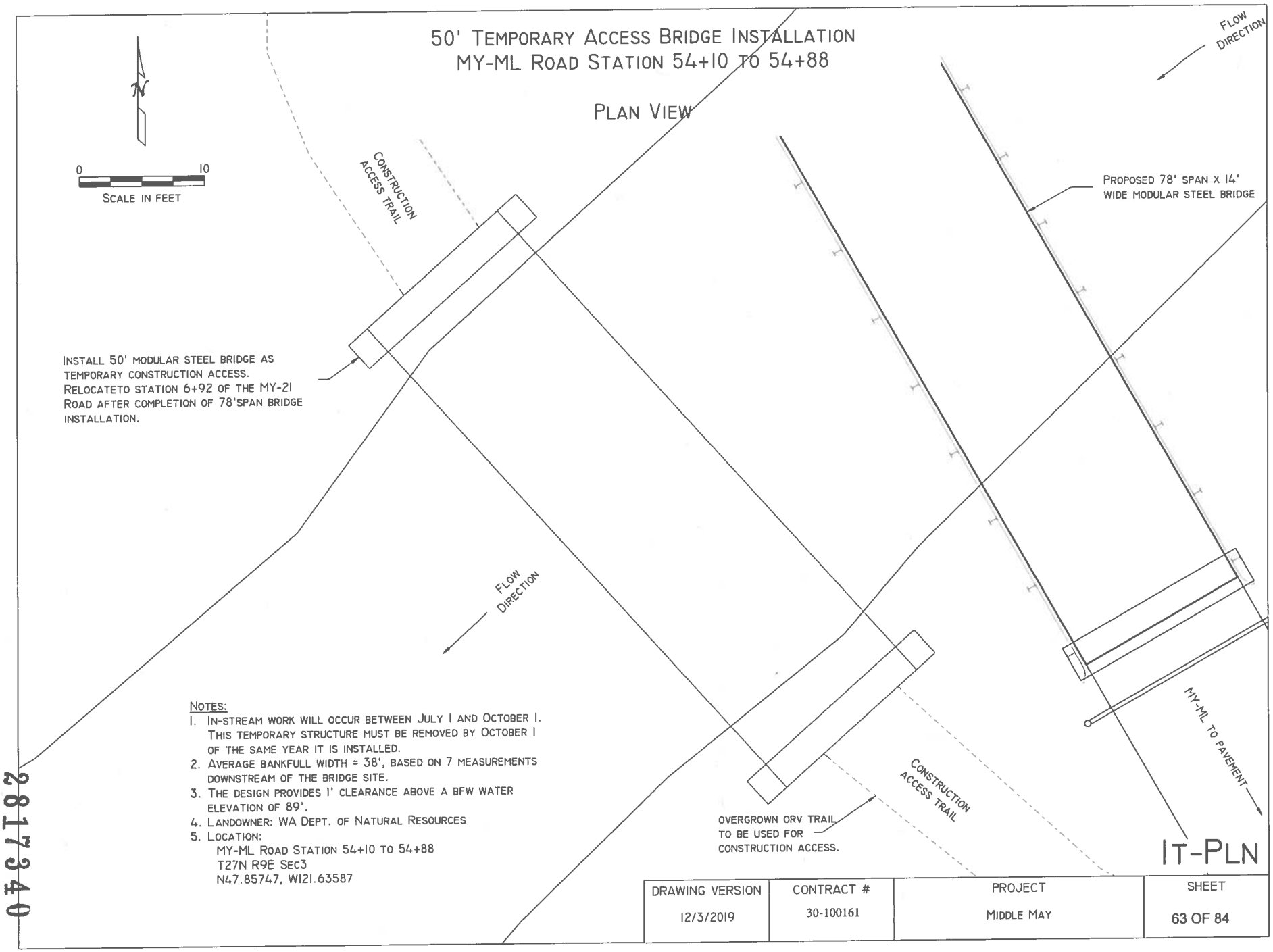
28178AU

I-Pro

Drawing Version	Contract #	Project	Sheet
1/30/2020	30-100161	Middle May	62 of 84

50' Temporary Access Bridge Installation
MY-ML Road Station 54+10 to 54+88

Plan View



Notes:

1. In-stream work will occur between July 1 and October 1. This temporary structure must be removed by October 1 of the same year it is installed.
2. Average bankfull width = 38', based on 7 measurements downstream of the bridge site.
3. The design provides 1' clearance above a BFW water elevation of 89'.
4. Landowner: WA Dept. of Natural Resources
5. Location:
   MY-ML Road Station 54+10 to 54+88
   T27N R9E Sec3
   N47.85747, W121.63587

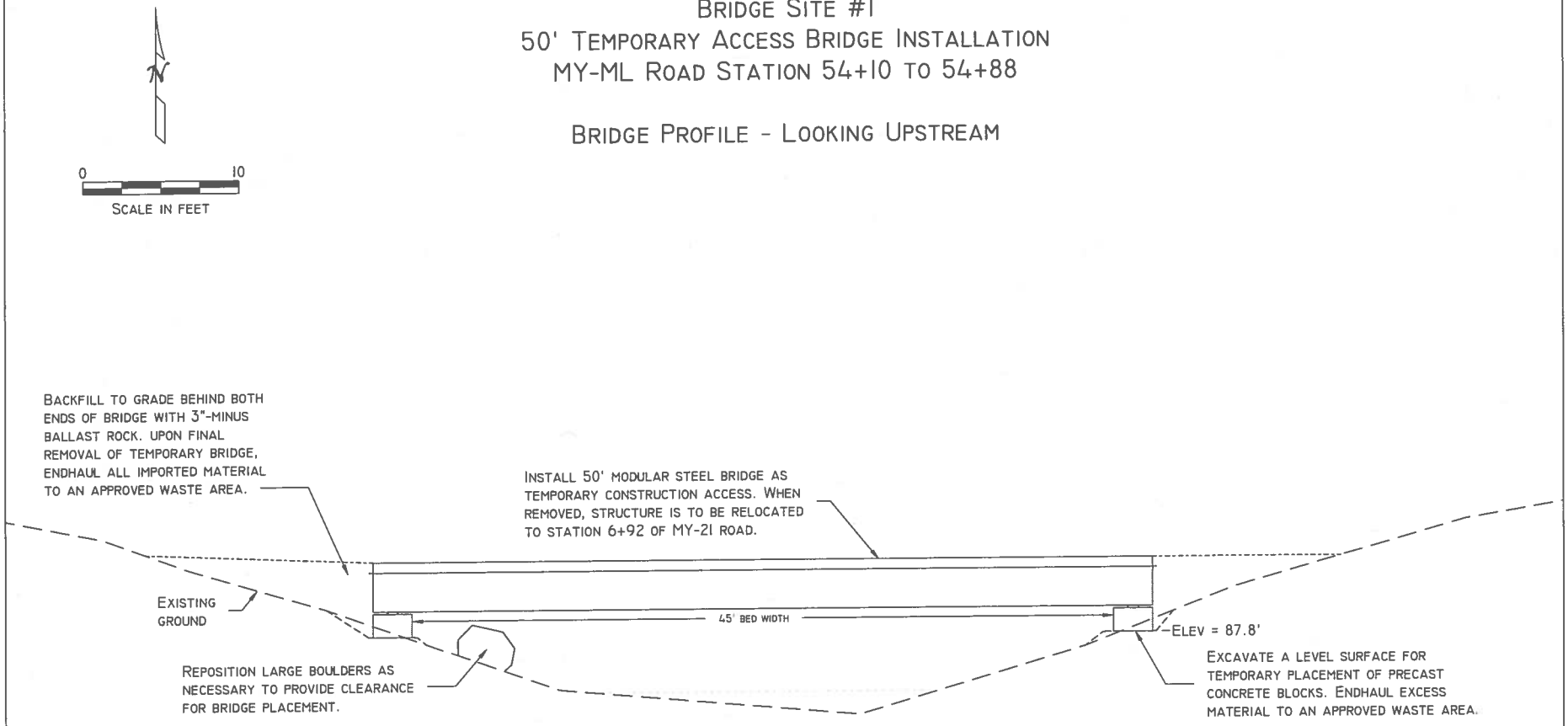
IT-PLN

Drawing Version	Contract #	Project	Sheet
12/3/2019	30-100161	Middle May	63 OF 84

28179340

BRIDGE SITE #1
50' TEMPORARY ACCESS BRIDGE INSTALLATION
MY-ML ROAD STATION 54+10 TO 54+88

BRIDGE PROFILE - LOOKING UPSTREAM



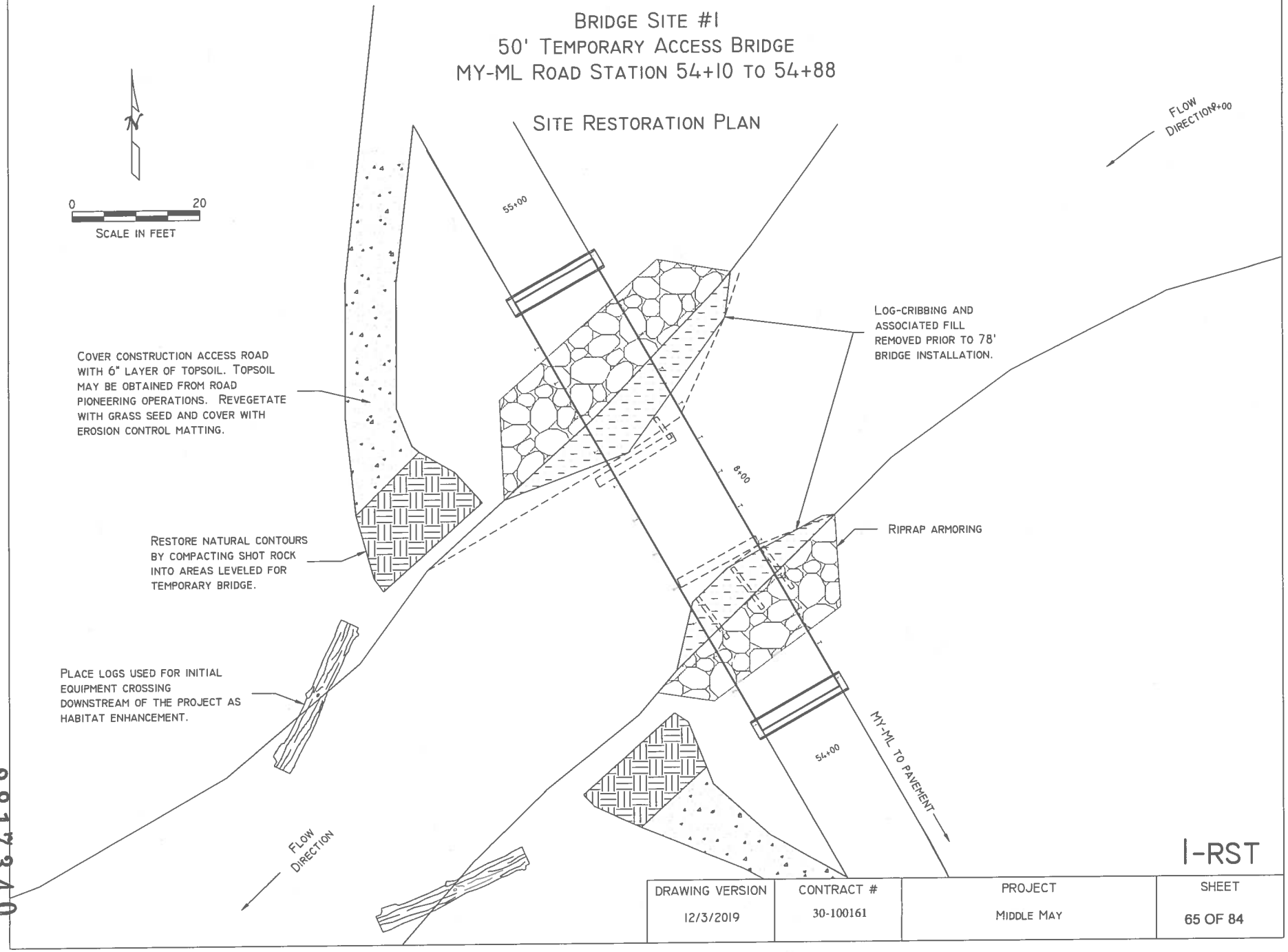
IT-PRO

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	64 OF 84

2817340

BRIDGE SITE #1
50' TEMPORARY ACCESS BRIDGE
MY-ML ROAD STATION 54+10 TO 54+88

SITE RESTORATION PLAN



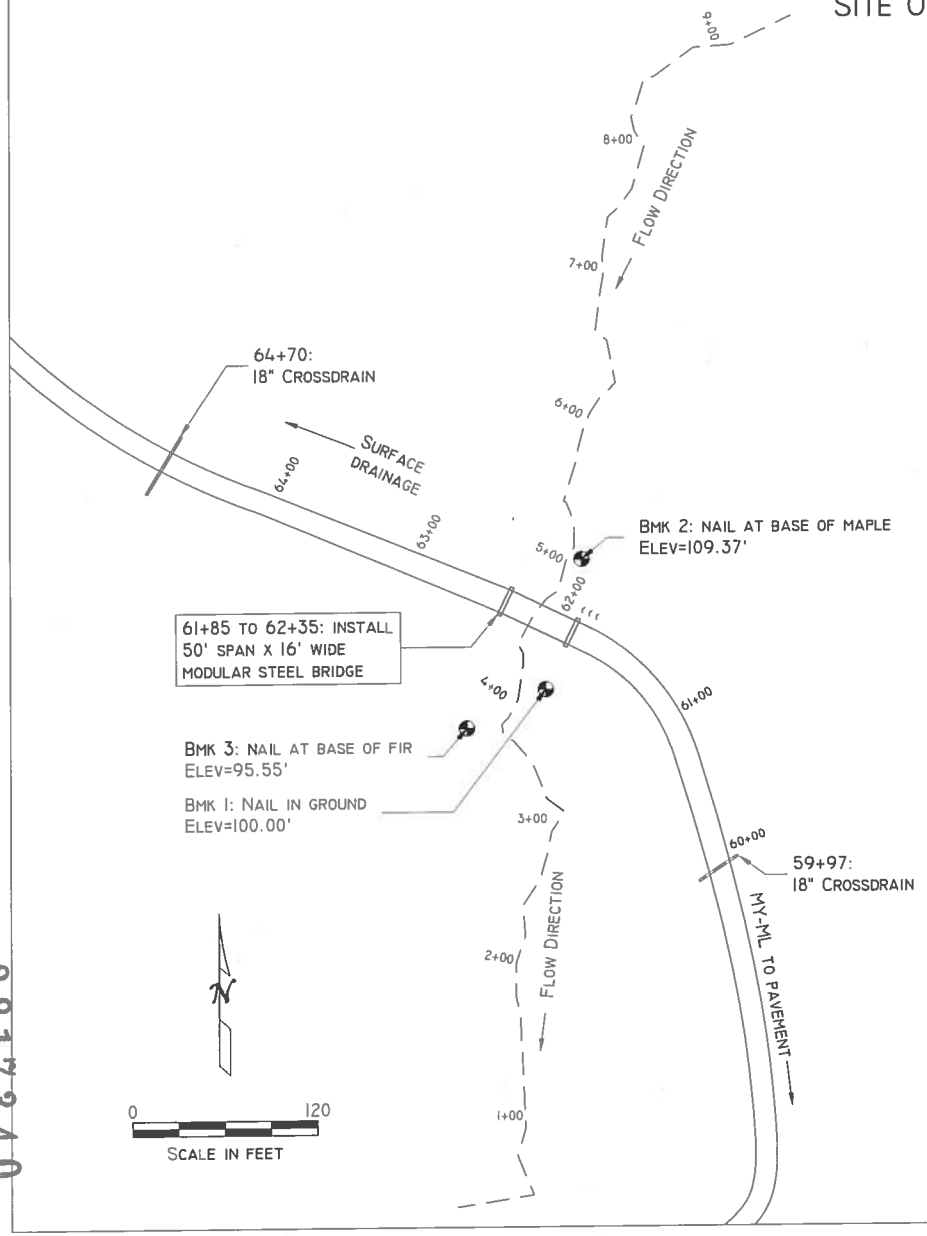
I-RST

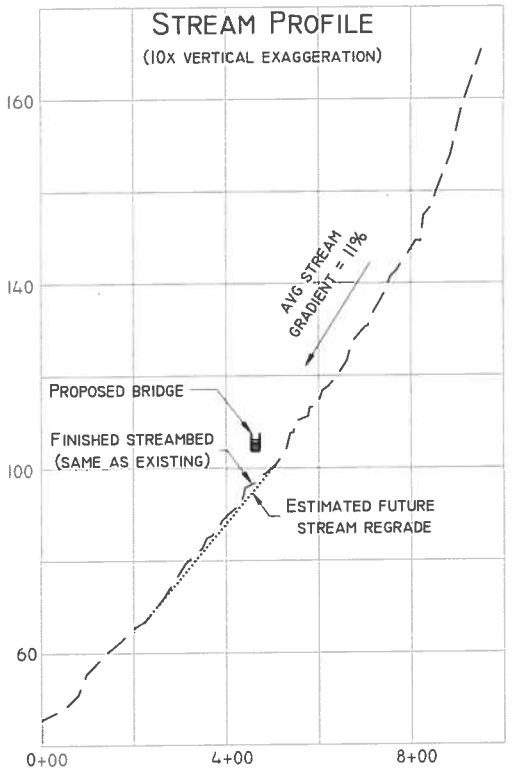
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	65 OF 84

28173.40

BRIDGE SITE #2
50'X16' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 61+85 TO 62+35

SITE OVERVIEW





FPA NOTES:

1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 21', BASED ON 4 MEASUREMENTS NEAR THE STREAM CROSSING.
3. THE DESIGN PROVIDES 5' CLEARANCE ABOVE A Q100 WATER ELEVATION OF 98.2'.
4. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
5. LOCATION:
   MY-ML ROAD STATION 61+85 TO 62+35
   T27N R9E SEC3
   N47.85903, W121.63630

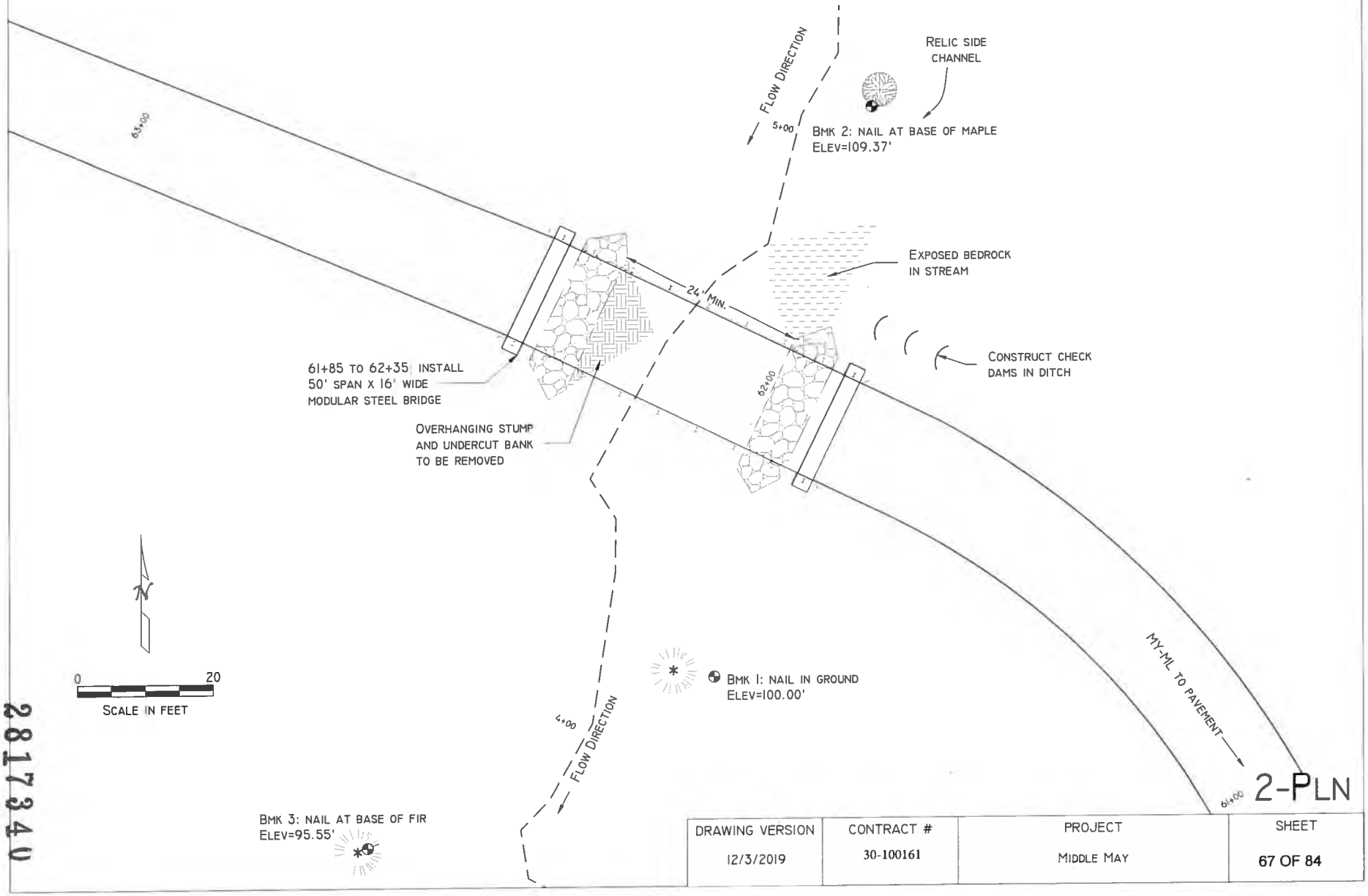
2-STE

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	66 OF 84

28173340

BRIDGE SITE #2
50'x16' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 61+85 TO 62+35

PLAN VIEW



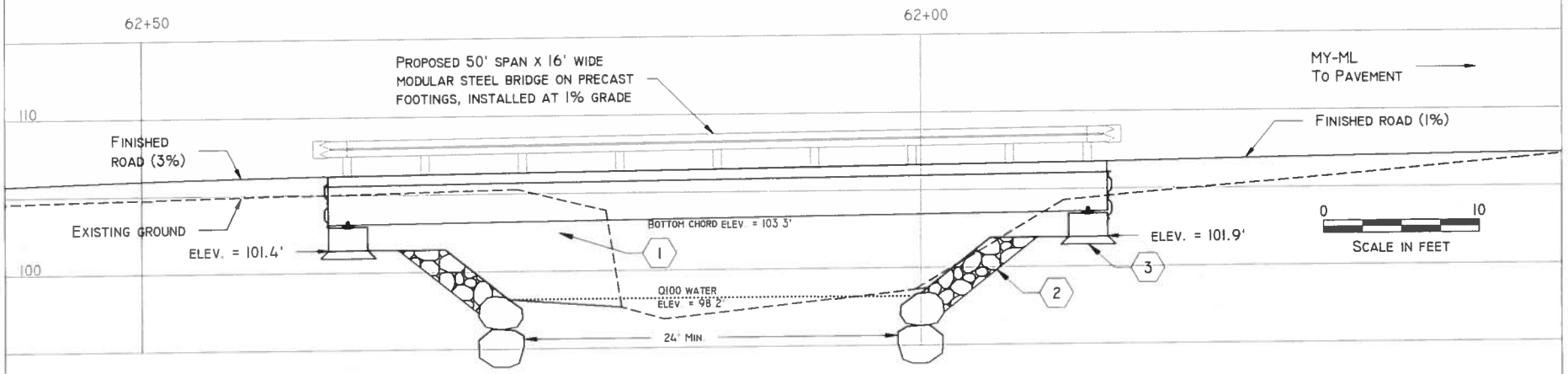
2817340

2-PLN

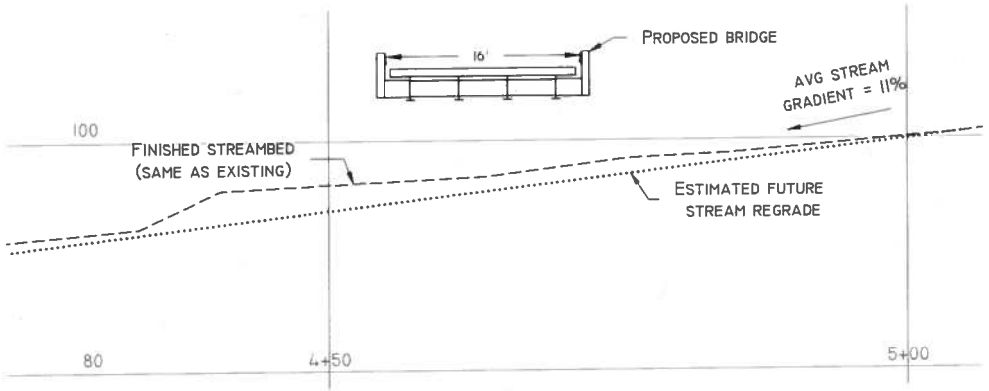
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	67 OF 84

BRIDGE SITE #2
50'x16' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 61+85 TO 62+35

BRIDGE PROFILE - LOOKING UPSTREAM



BRIDGE SECTION
SCALE: 1:16



CONSTRUCTION NOTES:

1. OVERHANGING STUMP AND UNDERCUT BANK TO BE REMOVED
2. 3-FOOT THICK RIPRAP ARMORING AT 1:1 SLOPE RATIO. TOE ELEVATION SHALL BE A MINIMUM OF 3' BELOW EXISTING STREAMBED. CONSTRUCT WITH A MIX OF LIGHT AND HEAVY LOOSE RIPRAP
3. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF 1½"-MINUS CRUSHED ROCK AS LEVELING COURSE

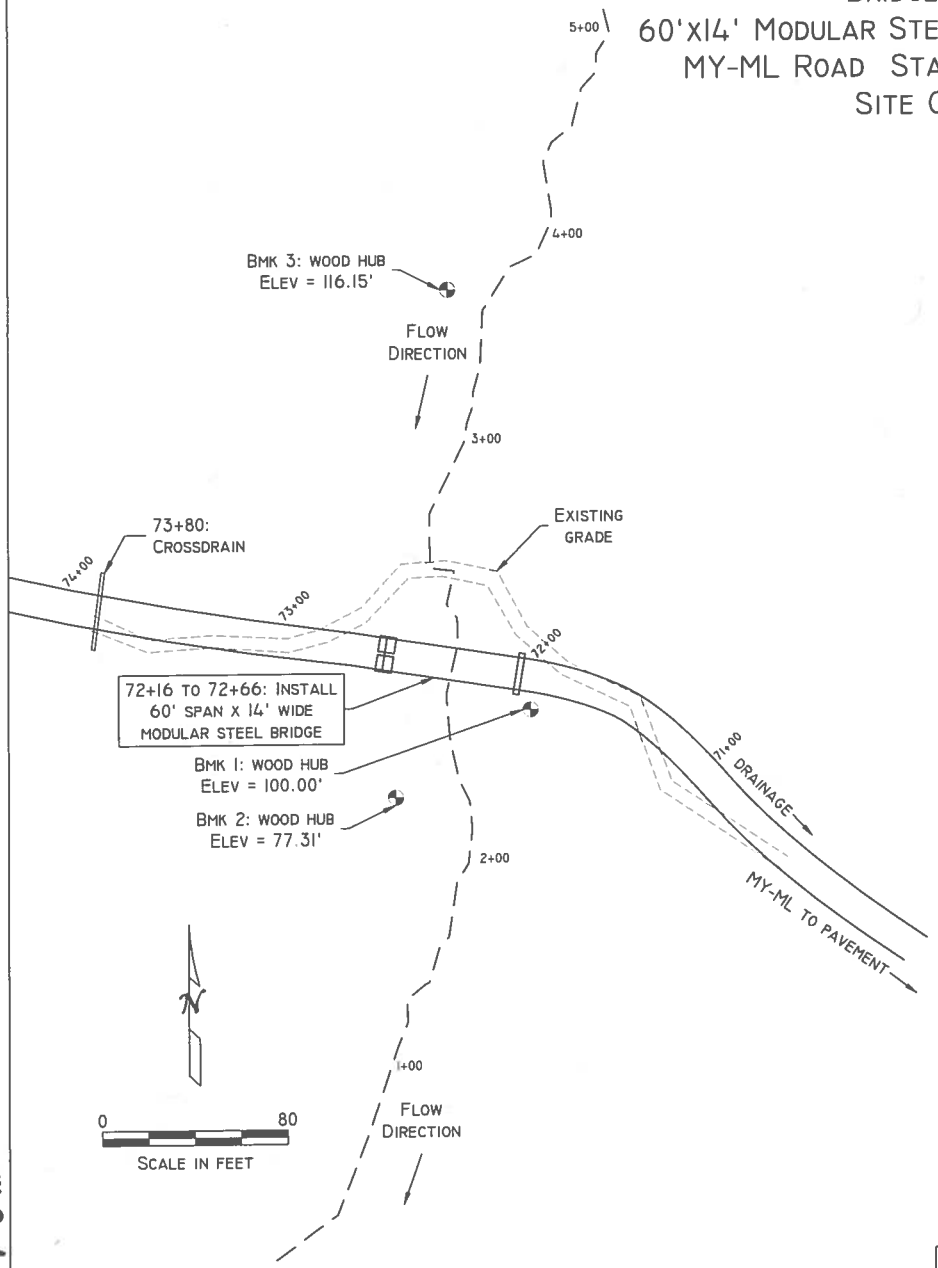
CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

2-PRO

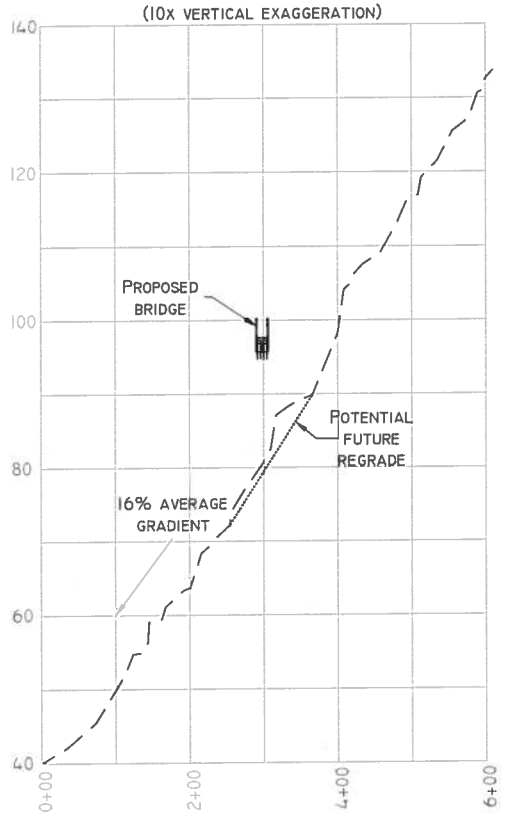
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	68 OF 84

28173340

BRIDGE SITE #3
60'X14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 72+11 TO 72+71
SITE OVERVIEW



STREAM PROFILE
(10X VERTICAL EXAGGERATION)



FPA NOTES:
1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 8.2', BASED ON 6 MEASUREMENTS UPSTREAM OF THE BRIDGE SITE.
3. THE DESIGN PROVIDES 12' CLEARANCE ABOVE A Q100 WATER ELEVATION OF 81.9'.
4. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
5. LOCATION:
   MY-ML ROAD STATION 72+11 TO 72+71
   T27N R9E SEC3
   N47.86070, W121.63955

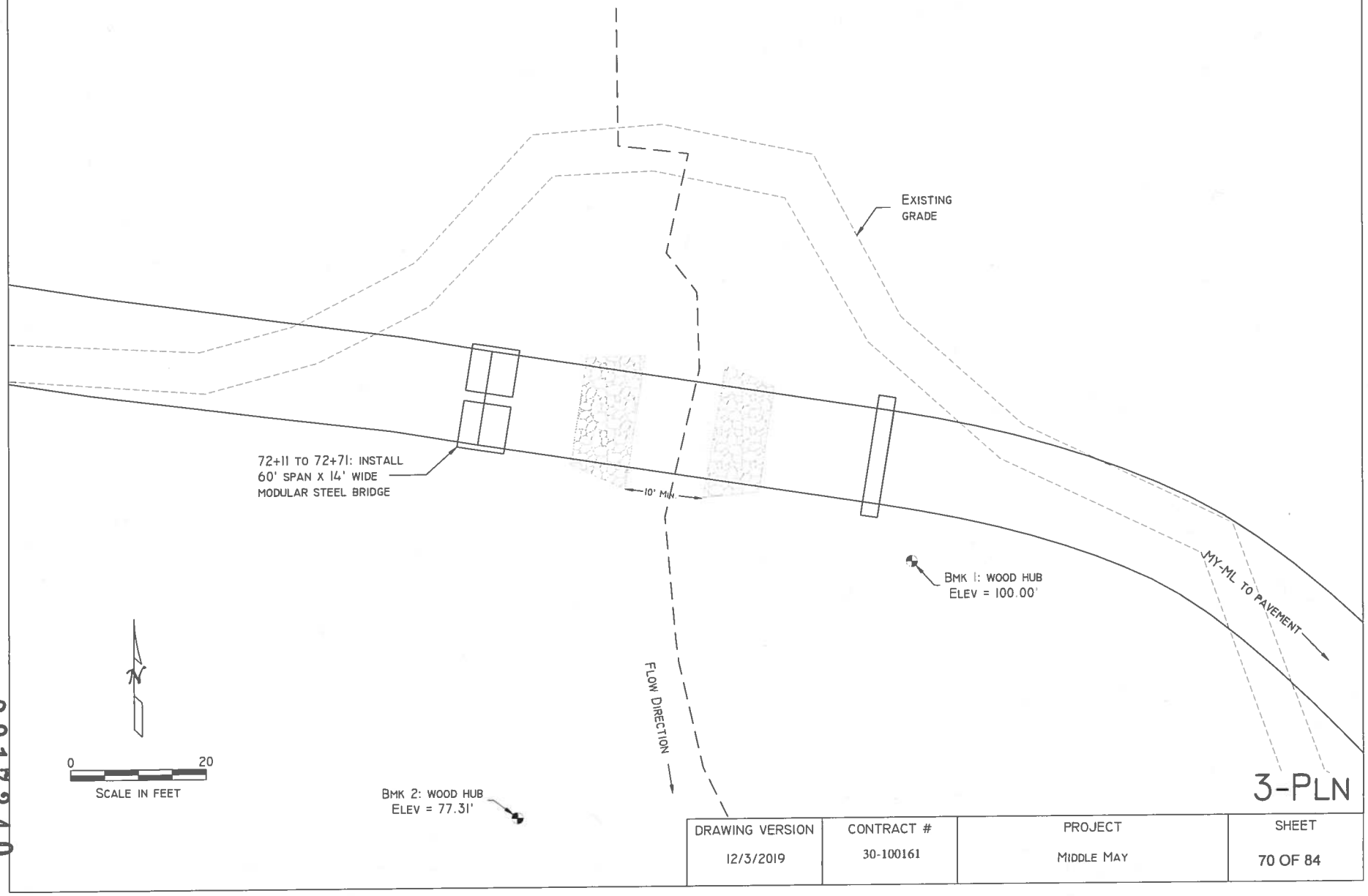
3-STE

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	69 OF 84

2817340

BRIDGE SITE #3
60'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 72+11 TO 72+71

PLAN VIEW



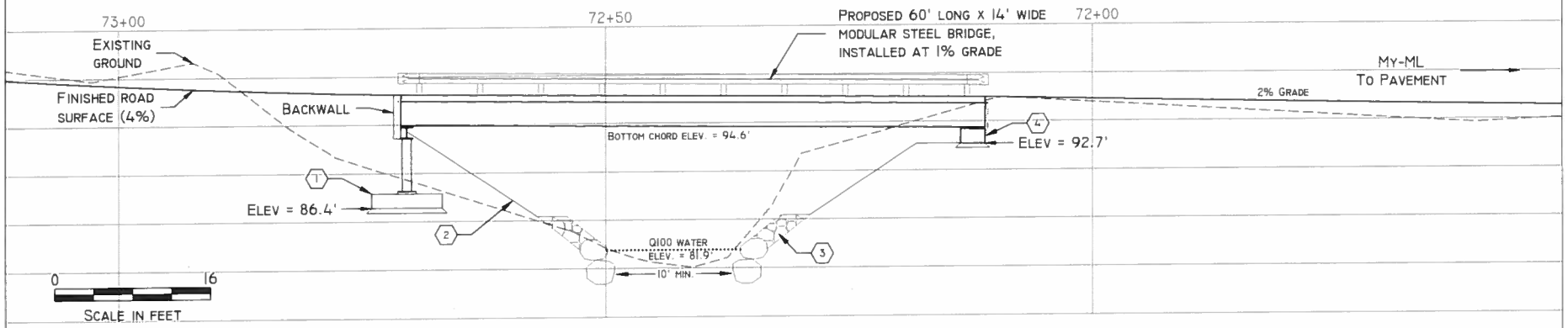
3-PLN

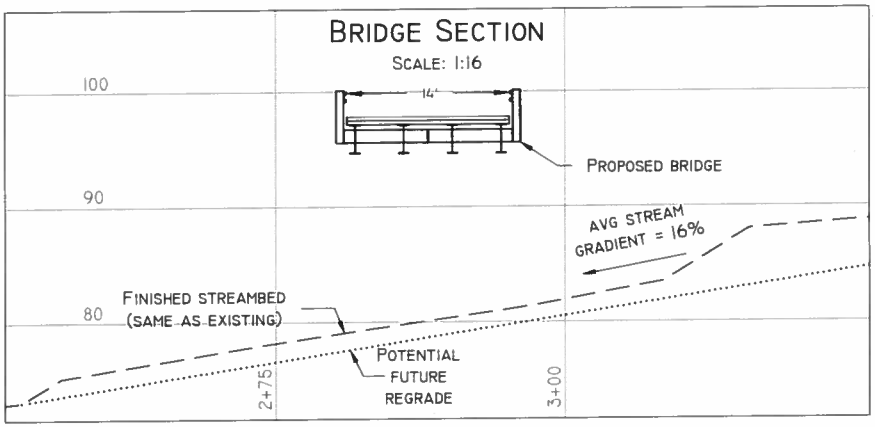
DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	70 OF 84

28173340

BRIDGE SITE #3
60'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-ML ROAD STATION 72+11 TO 72+71

BRIDGE PROFILE - LOOKING DOWSTREAM





CONSTRUCTION NOTES:

1. PRECAST CONCRETE FOOTING WITH STEEL TOWER ASSEMBLY. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF ½"-MINUS CRUSHED ROCK AS LEVELING COURSE
2. COMPACTED NATIVE FILL AT FINISHED SLOPE OF ½:1
3. 3-FOOT THICK RIPRAP ARMORING AT ½:1 SLOPE RATIO. COUNTERSINK TOE 3FT BELOW STREAMBED. CONSTRUCT WITH A MIX OF LIGHT AND HEAVY LOOSE RIPRAP
4. PRECAST CONCRETE FOOTING. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF ½"-MINUS CRUSHED ROCK AS LEVELING COURSE

CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

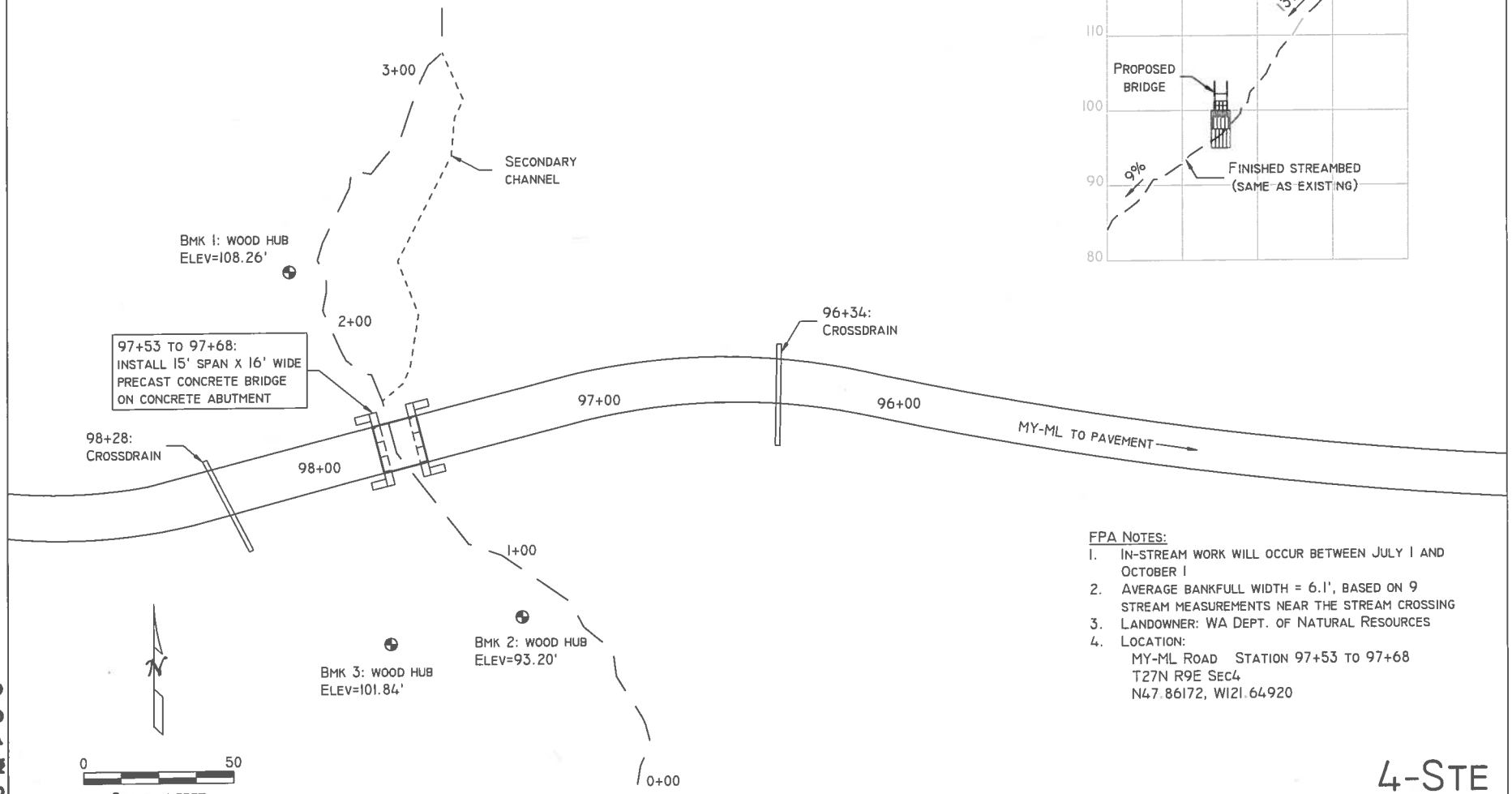
3-PRO

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	71 OF 84

28173 40

BRIDGE SITE #4
15'x16' PRECAST CONCRETE BRIDGE INSTALLATION
MY-ML ROAD STATION 97+53 TO 97+68

SITE OVERVIEW



STREAM PROFILE
(10X VERTICAL EXAGGERATION)

FPA NOTES:
1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 6.1', BASED ON 9 STREAM MEASUREMENTS NEAR THE STREAM CROSSING
3. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
4. LOCATION:
   MY-ML ROAD STATION 97+53 TO 97+68
   T27N R9E SEC4
   N47.86172, W121.64920

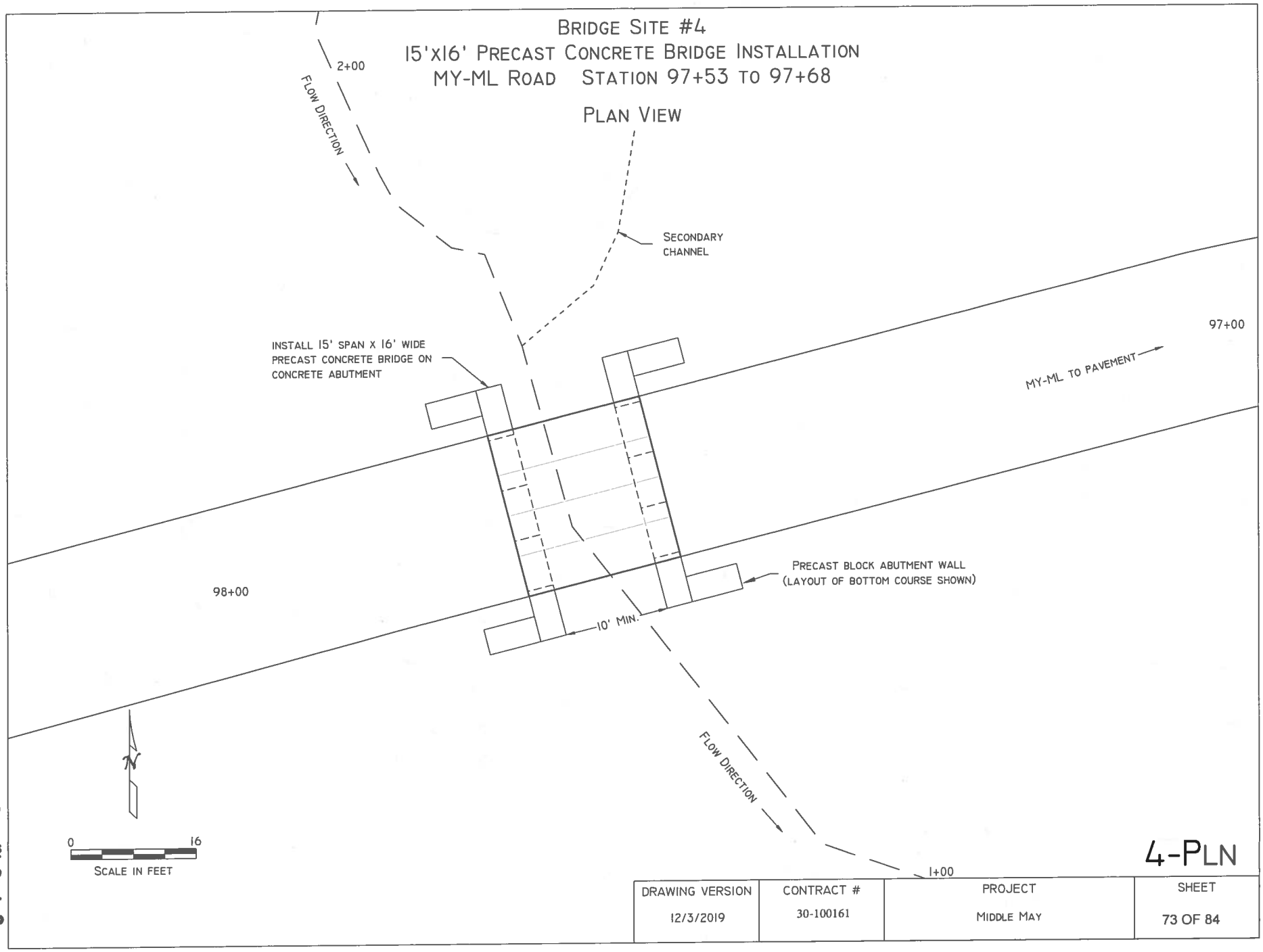
4-STE

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	72 OF 84

28173140

BRIDGE SITE #4
15'x16' PRECAST CONCRETE BRIDGE INSTALLATION
MY-ML ROAD STATION 97+53 TO 97+68

PLAN VIEW



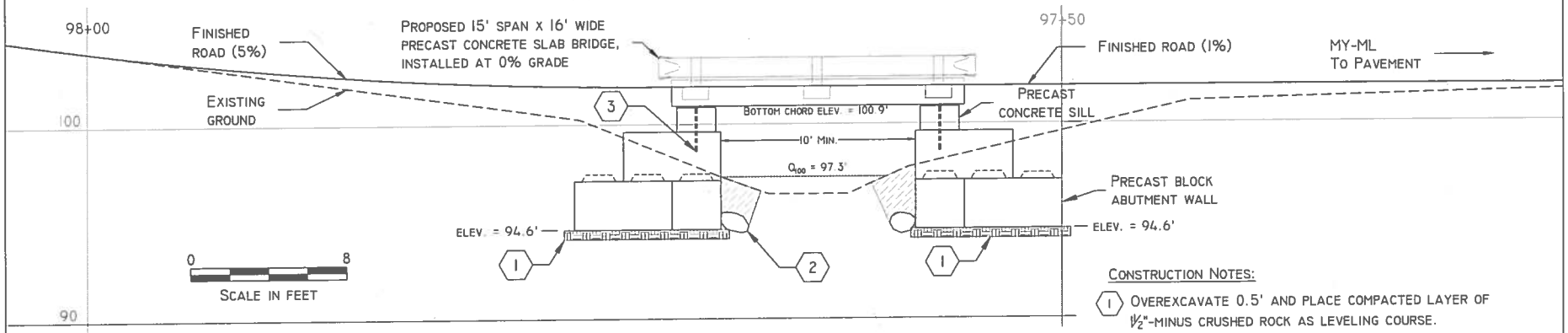
4-PLN

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	73 OF 84

28173440

BRIDGE SITE #4
15'x16' PRECAST CONCRETE BRIDGE INSTALLATION
MY-ML ROAD STATION 97+53 TO 97+68

BRIDGE PROFILE - LOOKING UPSTREAM



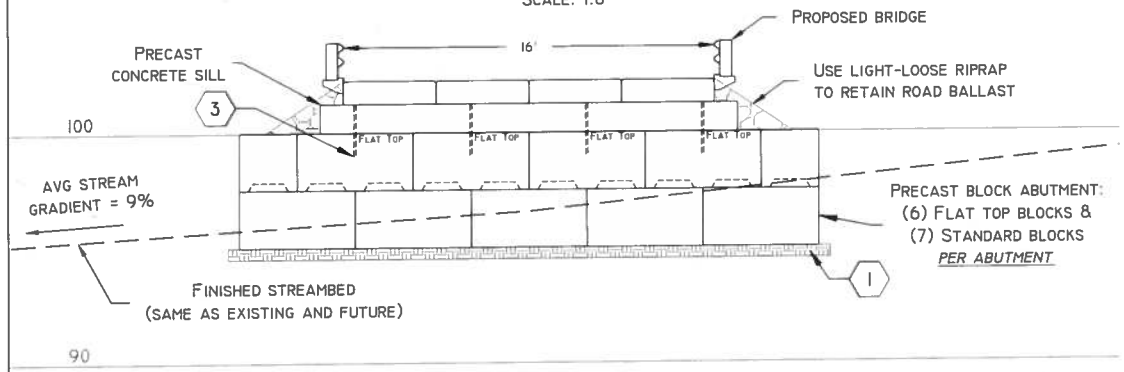
CONSTRUCTION NOTES:

1. OVEREXCAVATE 0.5' AND PLACE COMPACTED LAYER OF ½"-MINUS CRUSHED ROCK AS LEVELING COURSE.
2. ARMOR WALL WITH LIGHT-LOOSE RIPRAP. BACKFILL TO STREAM ELEVATION WITH A MIXTURE OF 50% PITRUN GRAVEL AND 50% COBBLE.
3. GROUT 1"x18" DRIFT PIN INTO ½" DIA HOLE, MIN. 1 PER BLOCK

CREATE TEMPORARY EQUIPMENT CROSSING BY PLACING LOGS PARALLEL TO STREAM FLOW SO THAT EQUIPMENT TRACKS REMAIN ABOVE WATER WHILE CROSSING

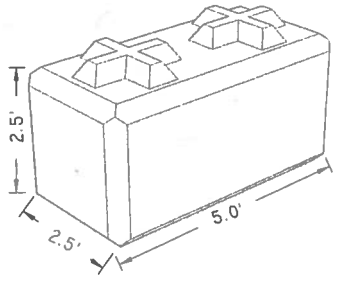
BRIDGE SECTION

SCALE: 1:8



PRECAST BLOCK DETAIL

(STANDARD BLOCK WITH SHEAR-KEY SHOWN)



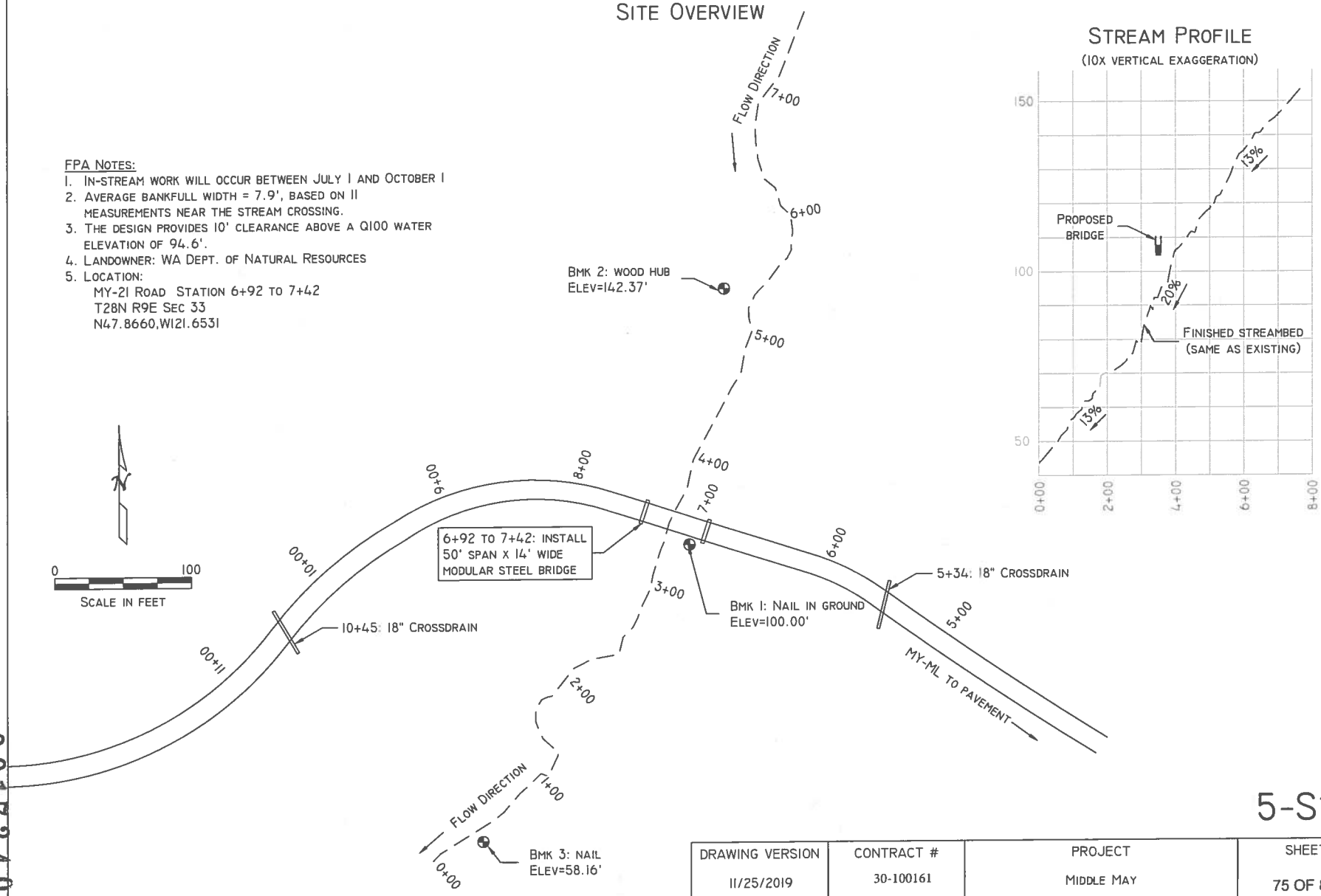
4-PRO

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
12/3/2019	30-100161	MIDDLE MAY	74 OF 84

28173340

BRIDGE SITE #5
50'X14' MODULAR STEEL BRIDGE INSTALLATION
MY-21 ROAD STATION 6+92 TO 7+42

SITE OVERVIEW



STREAM PROFILE
(10X VERTICAL EXAGGERATION)

FPA NOTES:

1. IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
2. AVERAGE BANKFULL WIDTH = 7.9', BASED ON 11 MEASUREMENTS NEAR THE STREAM CROSSING.
3. THE DESIGN PROVIDES 10' CLEARANCE ABOVE A Q100 WATER ELEVATION OF 94.6'.
4. LANDOWNER: WA DEPT. OF NATURAL RESOURCES
5. LOCATION:
   MY-21 ROAD STATION 6+92 TO 7+42
   T28N R9E SEC 33
   N47.8660,W121.6531

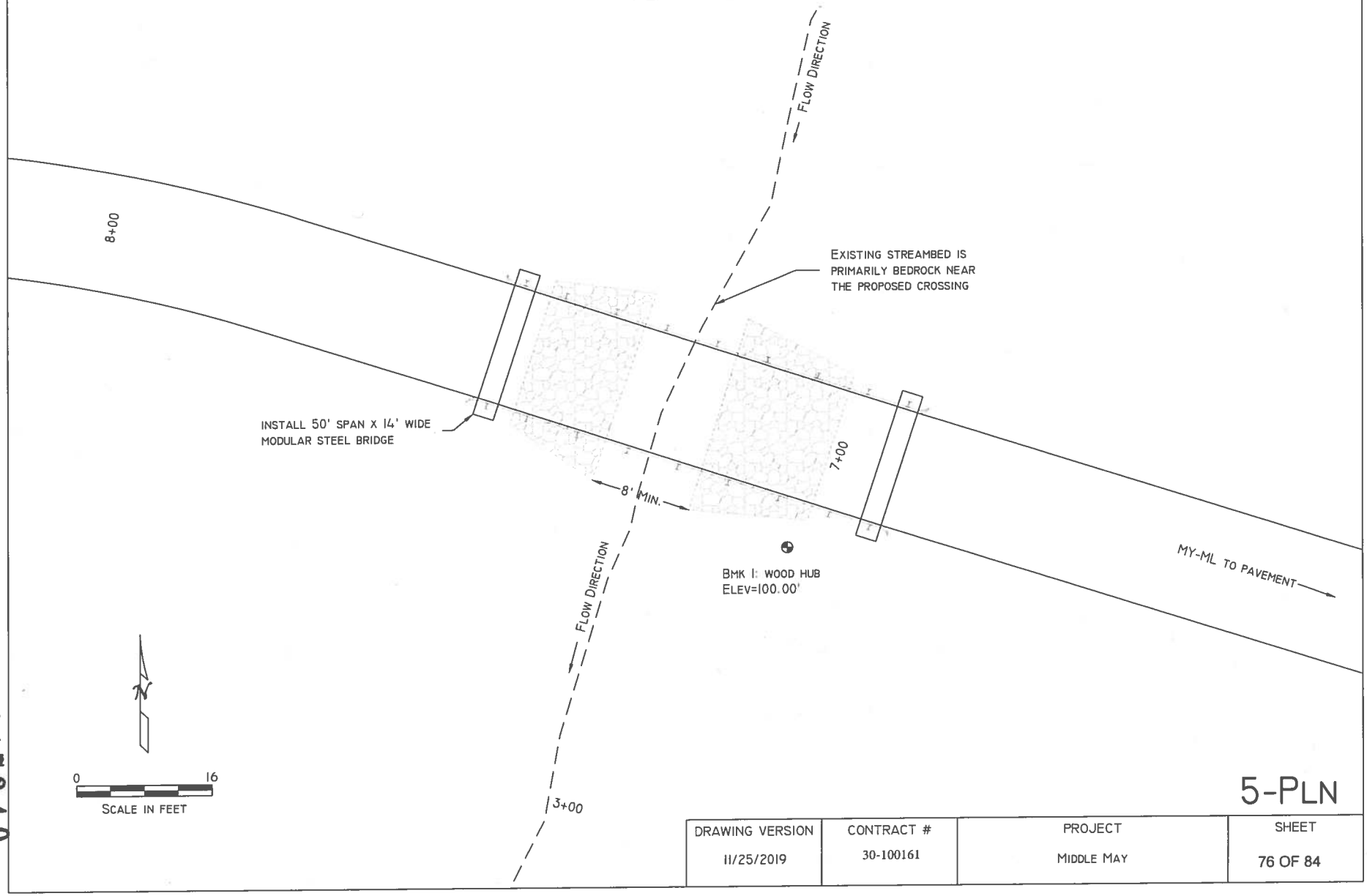
28173740

5-STE

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
11/25/2019	30-100161	MIDDLE MAY	75 OF 84

BRIDGE SITE #5
50'x14' MODULAR STEEL BRIDGE INSTALLATION
MY-21 ROAD STATION 6+92 TO 7+42

PLAN VIEW



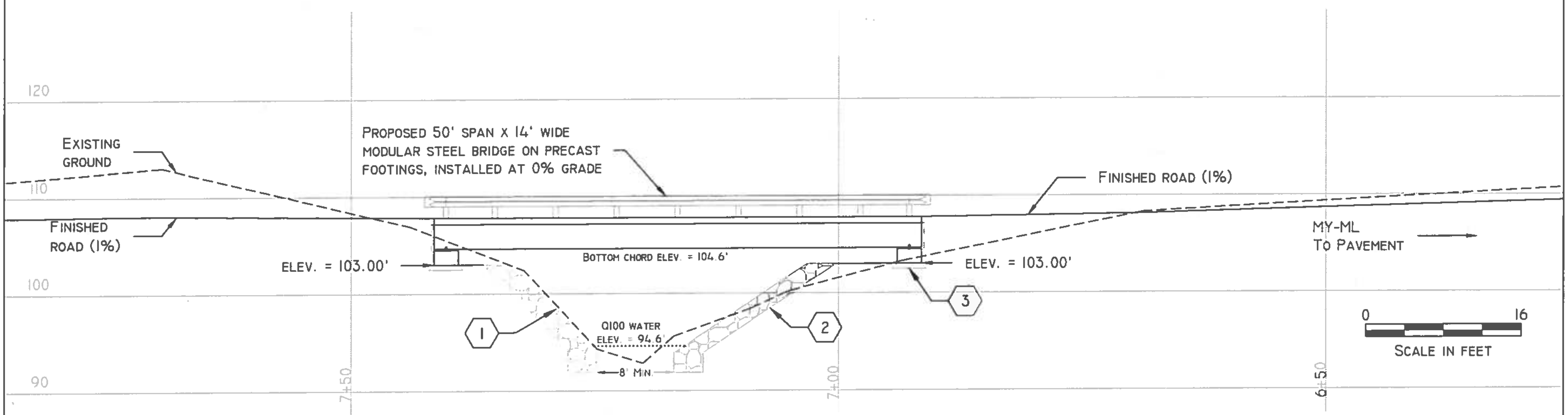
5-PLN

DRAWING VERSION	CONTRACT #	PROJECT	SHEET
11/25/2019	30-100161	MIDDLE MAY	76 OF 84

28173340

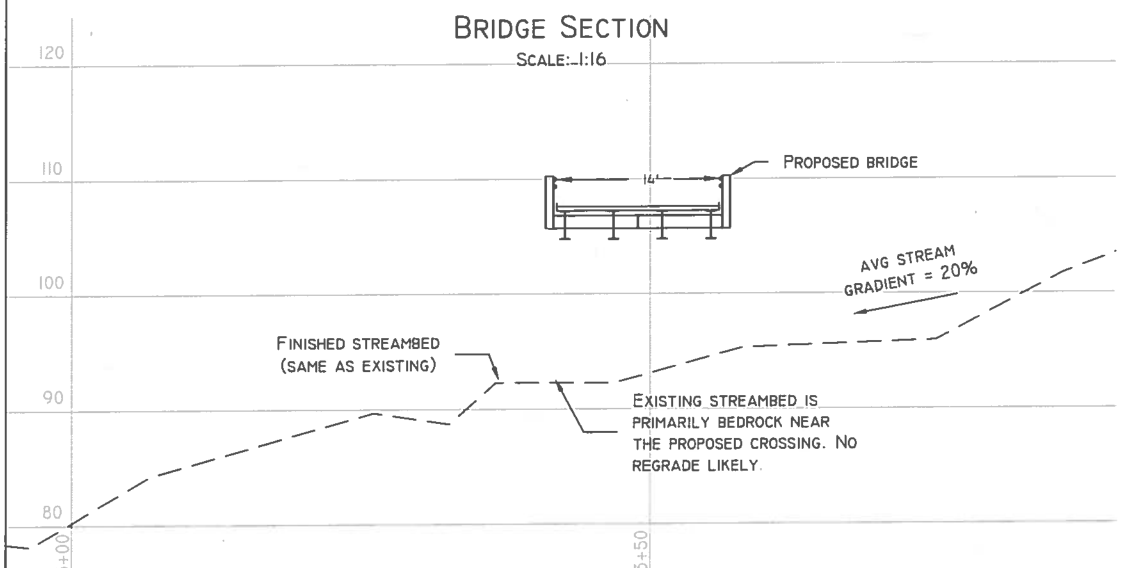
Bridge Site #5
50'x14' Modular Steel Bridge Installation
MY-21 Road Station 6+92 to 7+42

Bridge Profile - Looking Upstream



Bridge Section

Scale: 1:16



Construction Notes:

1. Far-side bank is expected to be composed of bedrock. If competent rock is not present, armor bank with riprap
2. 3-foot thick riprap armoring at 1½:1 slope ratio. Toe elevation shall be a minimum of 2' below existing streambed. Construct with a mix of light and heavy loose riprap
3. Overexcavate 0.5' and place compacted layer of ½"-minus crushed rock as leveling course.

Create temporary equipment crossing by placing logs parallel to stream flow so that equipment tracks remain above water while crossing

5-Pro

Drawing Version	Contract #	Project	Sheet
11/25/2019	30-100161	Middle May	77 of 84

TECHNICAL BRIDGE SPECIFICATIONS

PART B.1 – MATERIALS

B.1.1 STRUCTURAL STEEL

Structural Steel shall be ASTM Specification A-588 weathering steel. Structural Steel used as main load-carrying tension members or as tension components of flexural members shall be impact tested and shall have a minimum average Charpy V-notch (CVN) toughness of 25 ft-lb at 40°F.

Welded splices are prohibited in main load carrying members.

Mill Test Certificates shall be furnished for all structural steel members used in the fabrication of the bridge. Certified mill test reports for steel members with specified values shall include, in addition to other test results, the results of Charpy V-notch impact tests.

B.1.2 ELASTOMERIC BEARING PADS

Elastomeric bearing pads shall conform to the requirements of AASHTO M251.

PART B.2 – CONSTRUCTION REQUIREMENTS

B.2.1 STEEL BRIDGE FABRICATOR QUALIFICATIONS

Steel bridge fabricator shall be certified under the AISC Quality Certification Program, Certified Bridge Fabricator - Simple (SBR). When fracture critical members are included in the bridge, bridge fabricators shall also have a Fracture Critical Endorsement (FC), under the AISC Quality Certification Program.

B.2.2 STEEL WELDING AND INSPECTION

Welding and weld qualification tests shall conform to the provisions of the current edition of the AASHTO/AWS D1.5 Bridge Welding Code. No welding, including tack and temporary welds, shall be done in the shop or field unless location of the welds are shown on the approved shop drawings or otherwise approved by the State in writing. Purchaser shall provide State proof of welder certification prior to any field welding.

The Purchaser is responsible for non-destructive testing and welding inspection in accordance with, and as required by, AASHTO.AWS D1.5 Bridge Welding Code and as otherwise detailed in the Technical Specifications and Plans. Testing and inspection shall apply to welding performed both in the field and in the shop. After the purchasers welding testing and inspection is complete, they shall provide copies of procedures, acceptance criteria, results, and inspector qualifications to the State within 48 hours of request.

B.2.3 STEEL SURFACE CLEANING AND PREPARATION

All surfaces of structural steel shall be blast cleaned in accordance with the Steel Structures Painting Council (SSPC), Surface Preparation Specification No. 6, latest edition, (SSPC-SP6), Commercial Blast.

B.2.4 STEEL GALVANIZING

All galvanizing must be done after fabrication and must be in accordance with AASHTO Designation M111-09 (ASTM Designation: A123) and/or AASHTO Designation M232-10 centrifuged to remove excess (ASTM Designation A153) and/or AASHTO M298-10 mechanical galvanization (ASTM B695-04). All bolts used to facilitate field assembly will be A325 Type 1 or 2 galvanized.

B.2.5 PRECAST CONCRETE FABRICATOR QUALIFICATIONS

Precast concrete fabricator shall be certified under the Precast/Prestressed Concrete Institute's (PCI) Plant Certification Program at a level equivalent or higher than B1 – Precast Bridge Products (No Prestressed Reinforcement).

PART B.3 – STRUCTURE DESIGN

B.3.1 PURCHASER'S DESIGN ENGINEER

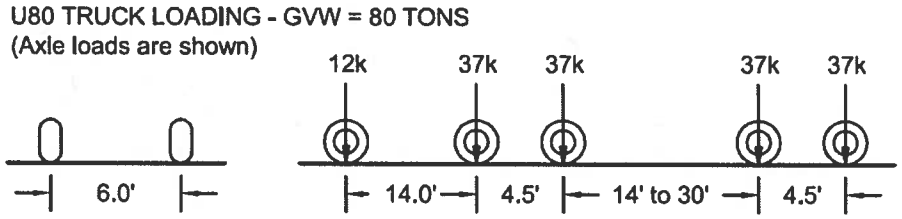
All design work shall be completed by (or under the direct supervision of) a Professional Engineer, licensed in the State of Washington, in the branch of Civil or Structural Engineering.

B.3.2 DESIGN METHOD

All design work shall be in conformance with the current edition of the AASHTO LRFD Bridge Design Specifications and all subsequent interim specifications. Design details not covered by the AASHTO Specifications shall be in accordance with normally accepted structural design standards.

B.3.3 DESIGN LOADING

Bridge and foundation shall be designed to HL-93 loading and U-80 special design vehicle with full impact (IM=33%).



B.3.4 BRIDGE DESIGN – GENERAL

A. Bridge shall have integral bridge rails, which shall be thrie-beam or W-Beam with steel posts and shall be designed for TL-1 force requirements in accordance with AASHTO LRFD Appendix A13.2. Bridge Rails are not required to be crash tested. All steel components shall be galvanized. End sections shall conform to WSDOT Standard Plan C-7a, Design C. Rail elements, backup plates, reducer sections, and end sections shall conform to A Guide to Standardized Highway Barrier Hardware published by AASHTO, AGC, and ARTBA. All rail elements shall be formed with minimum 12-guage. The rail splices shall have a minimum total ultimate strength of 80,000 pounds at each joint. The edges of the rails shall be rolled or rounded so they present no sharp edges.

B. Top of rail shall be a minimum of 27" above the top of the wearing surface.

C. Bridge deck shall be continuous full width, with no gaps that allow water and sediment to drain through the bridge deck.

D. Bridge components shall include functional lifting points to facilitate unloading and placement.

B.3.5 BRIDGE SUPERSTRUCTURE DESIGN – MODULAR STEEL

Bridge superstructure members must meet or exceed the following parameters:

A. The superstructure shall be a modular design consisting of steel girders and a deck system composed of either precast concrete panels or galvanized corrugated steel with gravel wearing surface.

B. Bridge shall have endwalls composed of either galvanized steel or precast concrete panels.

C. Vehicle load deflection limit of L/500 calculated in accordance with AASHTO LRFD Section 3.6.1.3.2.

D. Concrete components of this bridge including, but not limited to, deck, endwalls, and curbs shall be constructed of reinforced concrete with a minimum 28-day compressive strength of 4,000 psi.

E. Concrete design shall include specifications for:
   i. Required concrete strength at release and at 28 days.
   ii. Maximum slump of concrete.
   iii. Air content of concrete.
   iv. Reinforcing steel size, grade, and coating if applicable.

B.3.6 BRIDGE SUPERSTRUCTURE DESIGN – CONCRETE SLAB

Bridge superstructure members must meet or exceed the following parameters:

A. All manufactured components of this bridge including, but not limited to, girders, deck, wingwalls, endwalls, and curbs shall be constructed of reinforced concrete with a minimum 28-day compressive strength of 4,000 psi.

B. LRFD Article 2.5.2.6.2 – Criteria for Deflection shall be considered required. Vehicle load deflection limit of L/800 shall apply.

C. Design shall include specifications for:
   i. Required concrete strength at release and at 28 days.
   ii. Maximum slump of concrete.
   iii. Air content of concrete.
   iv. Reinforcing steel size, grade, and coating if applicable.

B.3.7 BRIDGE FOUNDATION DESIGN – SPREAD FOOTING

The foundation shall meet or exceed the parameters outlined below.

A. Foundation shall consist of pre-cast concrete spread footings, sized to meet design elevations shown on the plans.

B. All non-galvanized steel members that may come into contact with soil shall be painted with an anti-corrosion coating.

C. Nominal bearing resistance of the soil is assumed to be 4,000 pounds per square foot.

D. Design of pre-cast components provided by Purchaser's Engineer shall include specifications for:
   i. Required concrete strength at release.
   ii. Required concrete strength for transport.
   iii. Required concrete strength for exposure to construction loads.
   iv. Required concrete strength at 28 days.
   v. Reinforcing steel configuration, size, grade, and coating if applicable.

B.3.8 BRIDGE FOUNDATION DESIGN – TOWER AND PAD FOOTING

The foundation shall meet or exceed the parameters outlined below.

A. Foundation shall be consist of pre-cast concrete spread footings with steel tower assembly extending to bridge elevation.

B. All non-galvanized steel members that may come into contact with soil shall be painted with an anti-corrosion coating.

C. The abutment connections shall be per the bridge manufacturer's written instructions or as designed by the Purchaser's engineer.

D. Nominal bearing resistance of the soil is assumed to be 4,000 pounds per square foot.

E. Design of pre-cast components provided by Purchaser's Engineer shall include specifications for:
   i. Required concrete strength at release.
   ii. Required concrete strength for transport.
   iii. Required concrete strength for exposure to construction loads.
   iv. Required concrete strength at 28 days.
   v. Reinforcing steel configuration, size, grade, and coating if applicable.

B.3.9 BRIDGE FOUNDATION DESIGN – PRECAST BLOCK ABUTMENT

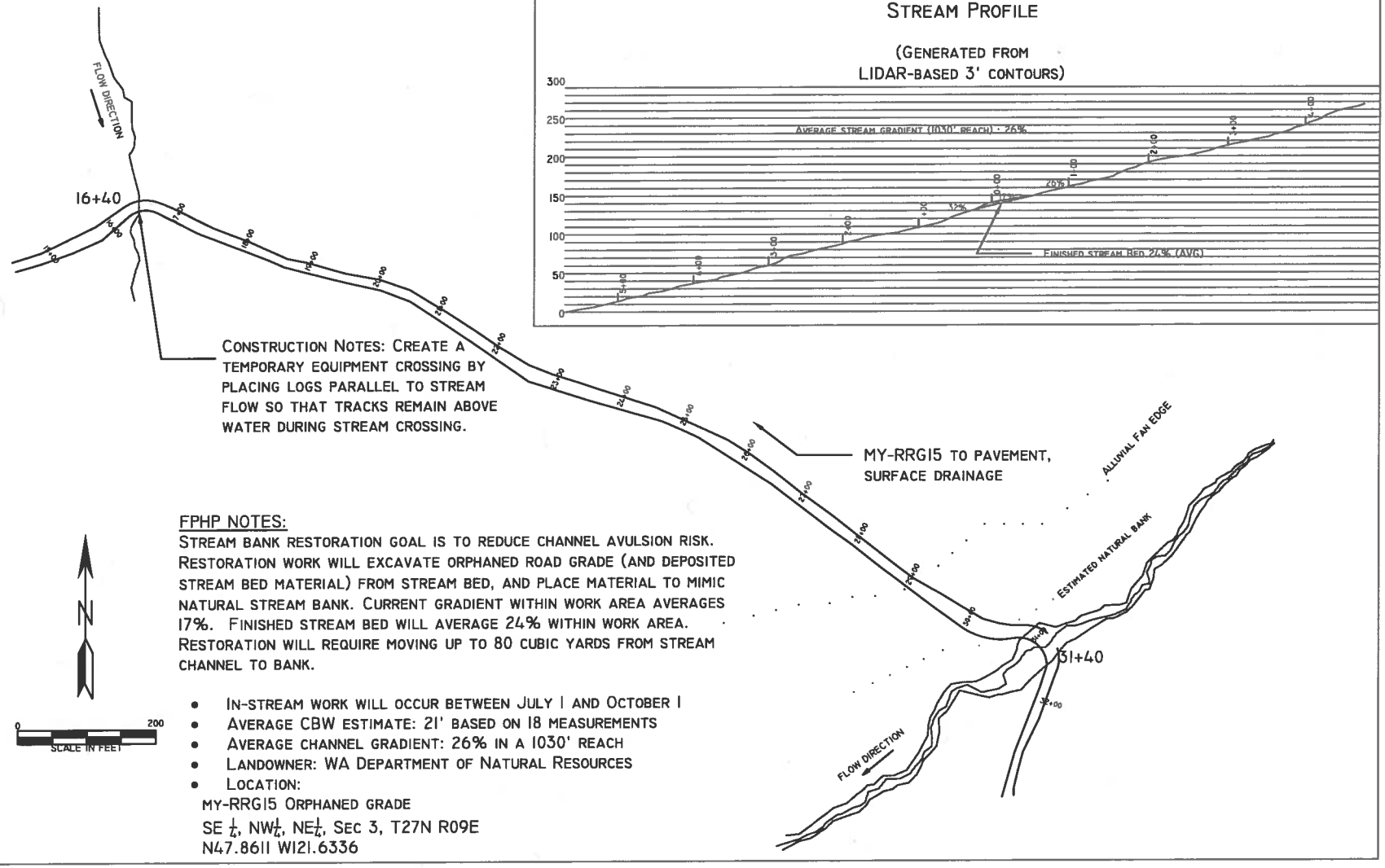
Abutment wall shall consist of Ultrablock®-style precast concrete blocks. Bridge shall include precast spread footings firmly attached to abutment walls. Blocks shall meet or exceed the parameters outlined below.

A. Concrete shall have 28-day compressive strength of at least 2,200 psi and shall be air entrained 4-7% to protect the surface from freeze thaw degradation.
B. Blocks shall be cast monolithically, no cold joints allowed.
C. All exposed surfaces shall have a smooth finish.
D. Block size shall be 2.5 feet wide x 2.5 feet deep x 5 feet long. Dimensional tolerance shall be ½-inch for length, width, and height.
E. Edges shall be chamfered.
F. Blocks shall interlock with a shear key system.
G. Each block shall include a satisfactory embedded lifting device.

STREAM BANK RESTORATION DETAIL

MY-RRG15 ORPHANED ROAD GRADE -- STATION 30+60 TO 31+40

SITE OVERVIEW



FPHP NOTES:

STREAM BANK RESTORATION GOAL IS TO REDUCE CHANNEL AVULSION RISK. RESTORATION WORK WILL EXCAVATE ORPHANED ROAD GRADE (AND DEPOSITED STREAM BED MATERIAL) FROM STREAM BED, AND PLACE MATERIAL TO MIMIC NATURAL STREAM BANK. CURRENT GRADIENT WITHIN WORK AREA AVERAGES 17%. FINISHED STREAM BED WILL AVERAGE 24% WITHIN WORK AREA. RESTORATION WILL REQUIRE MOVING UP TO 80 CUBIC YARDS FROM STREAM CHANNEL TO BANK.

- IN-STREAM WORK WILL OCCUR BETWEEN JULY 1 AND OCTOBER 1
- AVERAGE CBW ESTIMATE: 21' BASED ON 18 MEASUREMENTS
- AVERAGE CHANNEL GRADIENT: 26% IN A 1030' REACH
- LANDOWNER: WA DEPARTMENT OF NATURAL RESOURCES
- LOCATION:

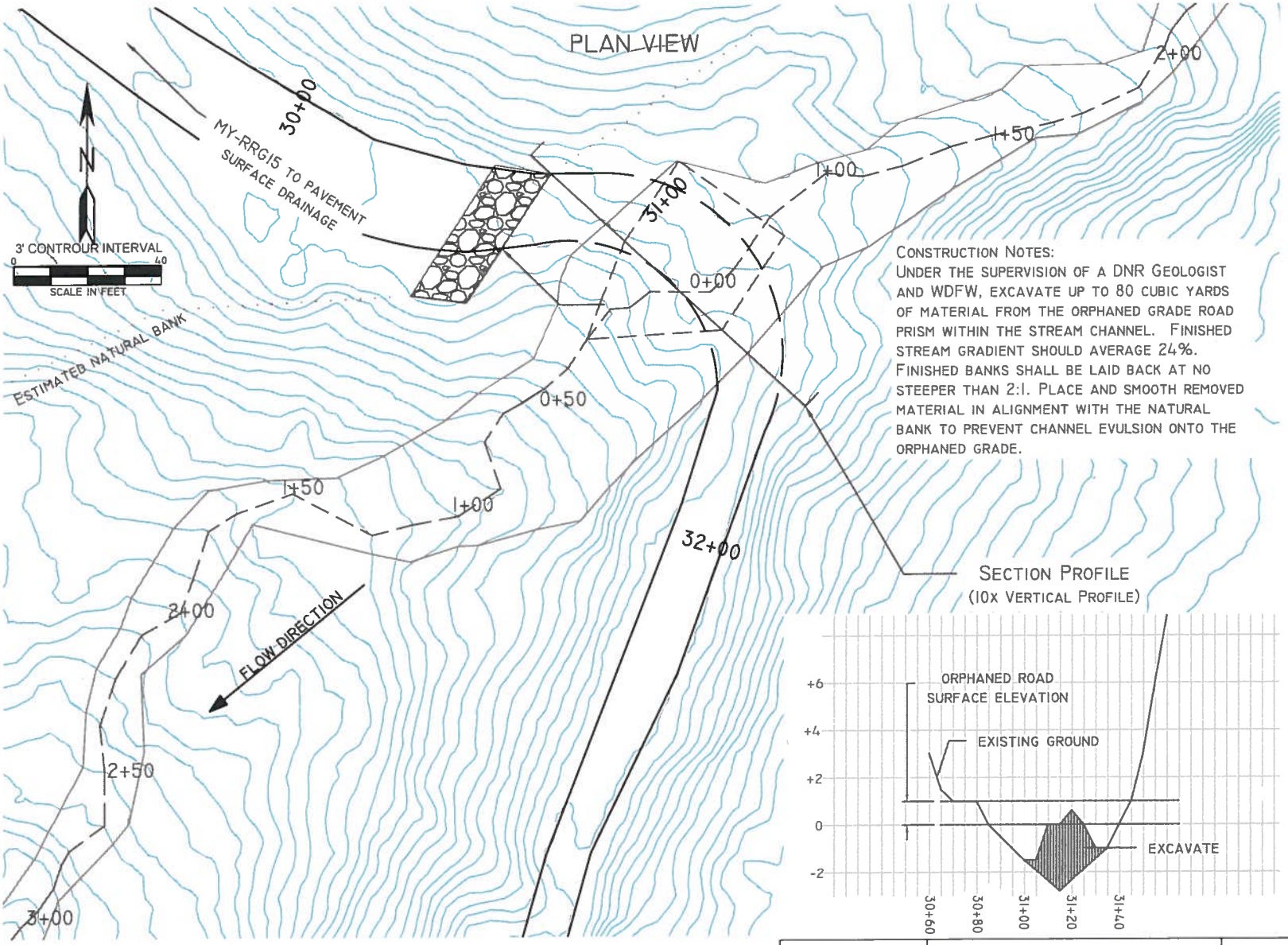
MY-RRG15 ORPHANED GRADE
SE ¼, NW¼, NE¼, SEC 3, T27N R09E
N47.8611 W121.6336

CONTRACT #	PROJECT	SHEET
30-100161	MIDDLE MAY	82 OF 84

28173940

STREAM BANK RESTORATION DETAIL

MY-RRGI5 ORPHANED ROAD GRADE STATION 30+60 TO 31+40

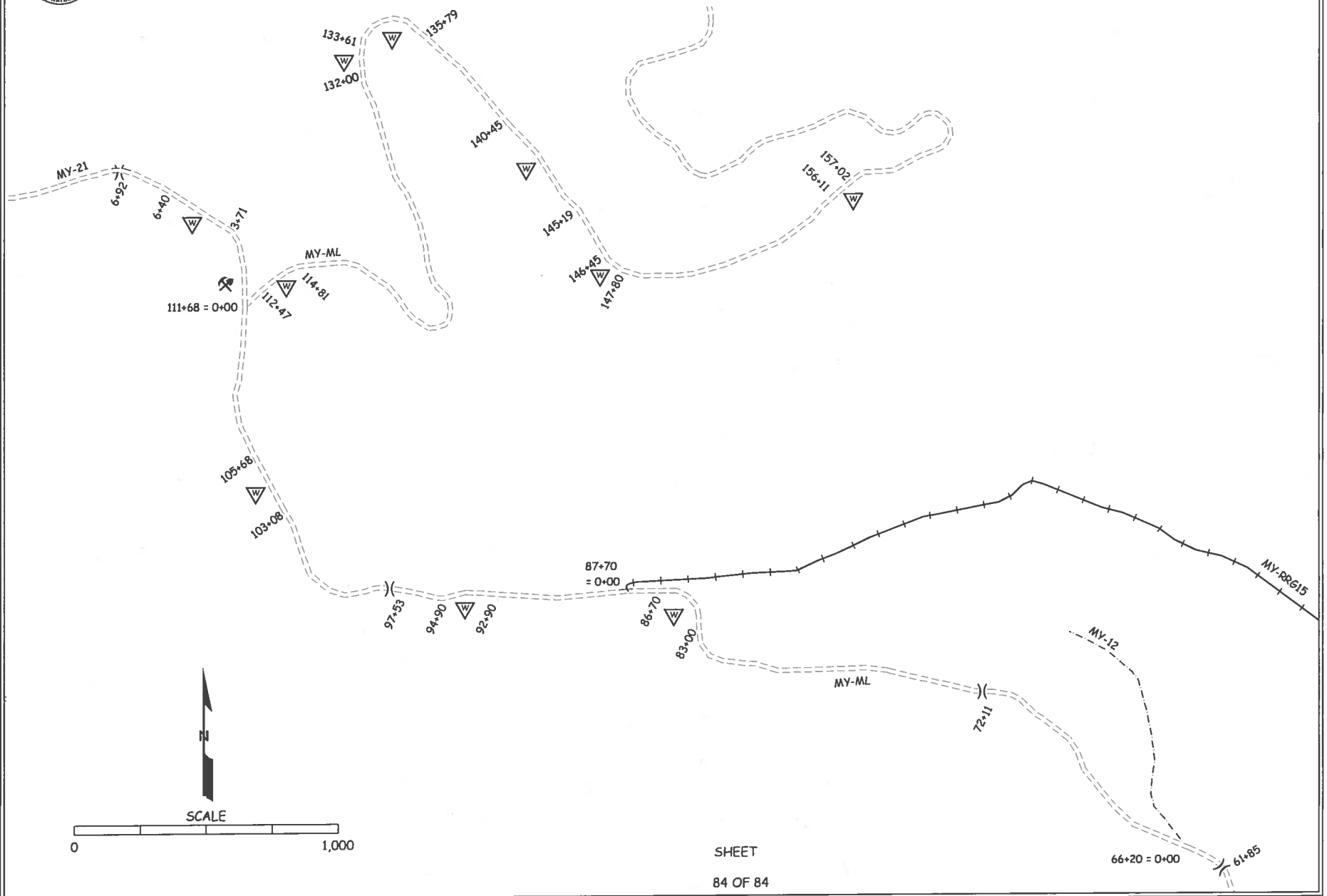


CONTRACT #	PROJECT	SHEET
30-100161	MIDDLE MAY	83 OF 84

2817340

WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

MIDDLE MAY TIMBER SALE
DESIGNATED WASTE AREAS



SHEET

84 OF 84

2817341

Revisions to FPA/N _2817340_____

DATE	DOCUMENT	DESCRIPTION
2/28/2020	Pg. 2 slope form	Replaced page

Revisions to FPA/N _2817340_____

DATE	DOCUMENT	DESCRIPTION
2/28/2020	Pg. 2 slope form	Replaced page
3-2-2020	Activity Map	Replaced map - See 3

Memo

To: Forest Practices

From: Theresa Klepl T.K.

Date: March 2, 2020

Subject: Middle May Forest Practices Activity Map – addition of CMZ to Map as requested by Forest Practices Forester

The CMZ information has been added to a Forest Practices Activity Map (Section 3 of Township 27 North, Range 9 East) per the request of Steve Haung, Forest Practices Forester. This information was included on the respective Forest Practices Slope Stability Map.

Thank you,
Theresa Klepl

DEPARTMENT OF
NATURAL RESOURCES

NORTHWEST REGION
919 NORTH TOWNSHIP STREET
SEDRO-WOOLLEY, WA 98284-9384

360-856-3500
northwest.region@DNR.WA.GOV
WWW.DNR.WA.GOV

March 6, 2020

Jay Guthrie
Acting Region Manager, Northwest Region
919 North Township St
Sedro Woolley, WA 98284

RE: Waiving 30 day approval for Middle May FPA 2817340

Dear Mr. Guthrie,

On February 7, 2020, DNR-regulatory received FPA No. 2817340 for the "Middle May" proposal. As the applicant for the proposal, DNR-proprietary agrees to waive the 30-day time period under RCW 76.09.050(1)(Class IV), RCW 76.09.050(5), and WAC 222-12-030(4) to provide adequate time to consider the comments raised during the SEPA comment period. The current decision date for FPA No. 2817340 is March 8, 2020. DNR-proprietary agrees to extend the 30-day decision period no longer than April 10, 2020.

Sincerely,

Allen McGuire
Cascade District Manager

Forest Practices Application/Notification

Notice of Decision

FPA/N No: 2817340
Effective Date: 4/2/2020
Expiration Date: 4/2/2023
Shut Down Zone: 658
EARR Tax Credit: [X] Eligible [ ] Non-eligible
Reference: Middle May

Decision

[ ] Notification	Operations shall not begin before the effective date.
[X] Approved	This Forest Practices Application is subject to the conditions listed below.
[ ] Disapproved	This Forest Practices Application is disapproved for the reasons listed below.
[ ] Closed	Applicant has withdrawn FPA/N.

FPA/N Classification

[ ] Class II [x] Class III [ ] Class IVG [ ] Class IVS

Number of Years Granted on Multi-Year Request

[ ] 4 years [ ] 5 years

Conditions on Approval / Reasons for Disapproval

Office and/or on site meeting with DNR Forest Practice Forester will be required prior to start of road abandonment of MY-12.

FOR YOUR INFORMATION:
Please notify DNR Northwest Region Office (360-856-3500) 48 business hours before commencing timber harvest operations.
Please provide the application number and legal description for your operation.

Issued By: Steven Huang **Region:** Northwest

Title: Skykomish Forest Practice Forester **Date:** 4/2/2020

Copies to: [X] Landowner, Timber Owner and Operator.

Issued in person: [X] Landowner [ ]Timber Owner [ ] Operator By: CNF

Appeal Information

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:
Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501
Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903
Information regarding the Pollution Control Hearings Board can be found at: http://www.eluho.wa.gov/
At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

Office of the Attorney General
Natural Resources Division
1125 Washington Street SE
PO Box 40100
Olympia, WA 98504-0100

And

Department Of Natural Resources
Northwest Region
919 N Township St
Sedro-Woolley WA 98284

Other Applicable Laws

Operating as described in this application/notification does not ensure compliance with the Endangered Species Act, or other federal, state, or local laws.

Transfer of Forest Practices Application/Notification (WAC 222-20-010)

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website: **http://www.dnr.wa.gov/businesspermits/forestpractices**. Notify DNR of new Operators within 48 hours.

Continuing Forest Land Obligations (RCW 76.09.060, RCW 76.09.070, RCW 76.09.390, and WAC 222-20-055)

Obligations include reforestation, road maintenance and abandonment plans, conversions of forest land to non-forestry use and/or harvest strategies on perennial non-fish habitat (Type Np) waters in Eastern Washington.

Before the sale or transfer of land or perpetual timber rights subject to continuing forest land obligations, the seller must notify the buyer of such an obligation on a form titled "Notice of Continuing Forest Land Obligation". The seller and buyer must both sign the "Notice of Continuing Forest Land Obligation" form and send it to the DNR Region Office for retention. This form is available at DNR region offices.

If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against the seller.

Failure by the seller to send the required notice to the DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forest land obligation prior to sale.

DNR affidavit of mailing:

On this day_____, I placed in the United States mail at _____, WA,
(date) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA #_____

_____ _____
(Printed name) (Signature)

Revisions to FPA/N _2817340_____

DATE	DOCUMENT	DESCRIPTION
2/28/2020	Pg. 2 slope form	Replaced page
3-2-2020	Activity Map	Replaced map - See 3
12/22/20	Transfer Form	Change of Operator

RECEIVED
DEC 21 2020
NW REGION

Forest Practices Application/Notification
NOTICE OF TRANSFER

I/we transfer my/our rights, privileges, and obligations under this approved Forest Practices Application or Notification. I/we affirm that the information contained below is true and agree to comply with the rules authorized by the Forest Practices Act and be bound by all conditions on the approved application or notification.

30-100161 MIDDLE MAY

FPA/N Number: 2817340 **Section(s):** 03,04,12;33,34 **Township:** 27;28N **Range:** 09E

Original Landowner (Signature): Cortney Coleman

Original Landowner (Printed): CORTNEY COLEMAN **Date:** 12/18/2020

New Operator – Complete this section **only** if you are:

☐ **Changing** an operator for:	☐ Road construction	☐ Timber harvest	☐ Aerial spray
☑ **Adding** an operator for:	☑ Road construction	☑ Timber harvest	☐ Aerial spray

Legal Name of New Operator: (Print)	Mailing Address:
SIERRA PACIFIC INDUSTRIES	14353 MCFARLAND ROAD MOUNT VERNON, WA 98273
Phone: 360-424-7619 Email:	

New Operator Signature: Ada Albert **Date:** 12/3/2020

New Landowner – Complete this section **only** if you are transferring your FPA to a new landowner

☐ No ☐ Yes Are you a small forest landowner per RCW 76.09.450 *(if yes, continue to question below)*

☐ No ☐ Yes Is your entire proposed harvest area on a single contiguous ownership consisting of one or more parcel(s)?

Legal Name of New Landowner: (Print)	Mailing Address:
Phone: Email:	

New Landowner Signature: **Date:**

New Timber Owner – Complete this section **only** if you are transferring your timber rights

Legal Name of Timber Owner: (Print)	Mailing Address:
SIERRA PACIFIC INDUSTRIES	14353 MCFARLAND ROAD MOUNT VERNON, WA 98273
Phone: 360-424-7619 Email:	

Forest Tax Reporting Account Number: (Contact Dept. of Revenue at: 1-800-548-8829)

800 059 489

New Timber Owner Signature: Ada Albert **Date:** 12/3/2020

☑ **Received by:** A. Schmidt **Date:** 12/22/20

(DNR Forest Practices Staff Signature) 11/01/2017

FPA/N No: 2817340

Date of Service: 1/20/2021

Reference: Middle May

Request to Amend
Forest Practices Application/Notification

DNR's Decision

Decision

☒ **Approved** This request for an amendment is approved and subject to the conditions listed below

☐ **Disapproved** This request for an amendment is disapproved for the reasons listed below

Conditions on Approval/Reasons for Disapproval

No additional conditions

Appeal Information (RCW 76.09.090(3), WAC 222-46-030(4), and WAC 332-08-215(3)

The Landowner, Timber Owner, or Operator has 15 calendar days from the Date of Service to request a Brief Adjudicative Proceeding for this **amendment which is a Notice to Comply for an authorized deviation.** Appeal requests must:

- Be in writing
- Include signature(s)
- Include the factual basis for the appeal and the issue to be adjudicated
- Sent to the Region Office at 919 N Township St, Sedro-Woolley, WA 98284
- With a copy sent to the Department of Natural Resources, Forest Practices Division, PO Box 47012, Olympia, WA 98504-7012

Issued By: Steven Huang **Title:** Skykomish Forest Practice Forester

Copies Sent To: *Landowner (via US Mail), Timber Owner (via US Mail), Operator (via US Mail), WDFW, ECY, Affected Indian Tribes, LGE, other*

DNR affidavit of mailing:

On this day 1/20/2021 (date), I placed in the United States mail at Sedro- Woolley (post office location), WA, postage paid, a true and accurate copy of this Amendment Request Notice of Decision for FPA # 2817340

Ada Schmidt (Printed name)

A. Schmidt (Signature)

WASHINGTON STATE DEPT OF
NATURAL RESOURCES

For DNR Region Office Use Only	
Region:	NW

Request to Amend Forest Practices Application/Notification

Use this to request an amendment to an approved Western Washington, Eastern Washington, or Aerial Chemical Applications/Notifications

TYPE OR PRINT IN INK:

1. **Landowner, Timber Owner, and Operator information**

Legal Name of LANDOWNER	Legal Name of TIMBER OWNER	Legal Name of OPERATOR
Department of Natural Resources	Sierra Pacific Industries	ALRT Corp.
Mailing Address: 919 N. Township Street	Mailing Address: 14353 McFarland Road	Mailing Address: 4040 Mt Baker Highway
City, State, Zip Sedro-Woolley, WA 98284	City, State, Zip Mount Vernon, WA 98273	City, State, Zip Everson, WA 98247
Phone (360) 856-3500 Email:	Phone (360) 424-7619 Email: Ejacoby@spi-ind.com	Phone (360) 592-5300 Email:

2. **Approved FPA/N Number** 2817340

3. **Describe the proposed amendment to the original FPA/N. You can attach revised pages of an FPA/N, or give specific details. Include a new Activity Map if you are proposing any changes to the original.**

   We propose to add an additional rock source located along the MY-ML. We would like to enlarge the harvest boundary as depticted on the map to facilitate a new rock pit. There are no water crossings associated with the new proposal, and the new proposal lies outside of any RMZ or WMZ area. The proposed pit is flagged with lime-glo and pink ribbon, and is approximately 1 acre in size.

4. **I affirm that the information contained herein is true, and understand that this proposed forest practice is subject to the Forest Practices Act and Rules, as well as all other federal, state or local regulations. Compliance with the Forest Practices Act and Rules does not ensure compliance with the Endangered Species Act or other federal, state or local laws. I understand this amendment is a request for a Notice to Comply for an authorized deviation as described in WAC 222-20-060.**

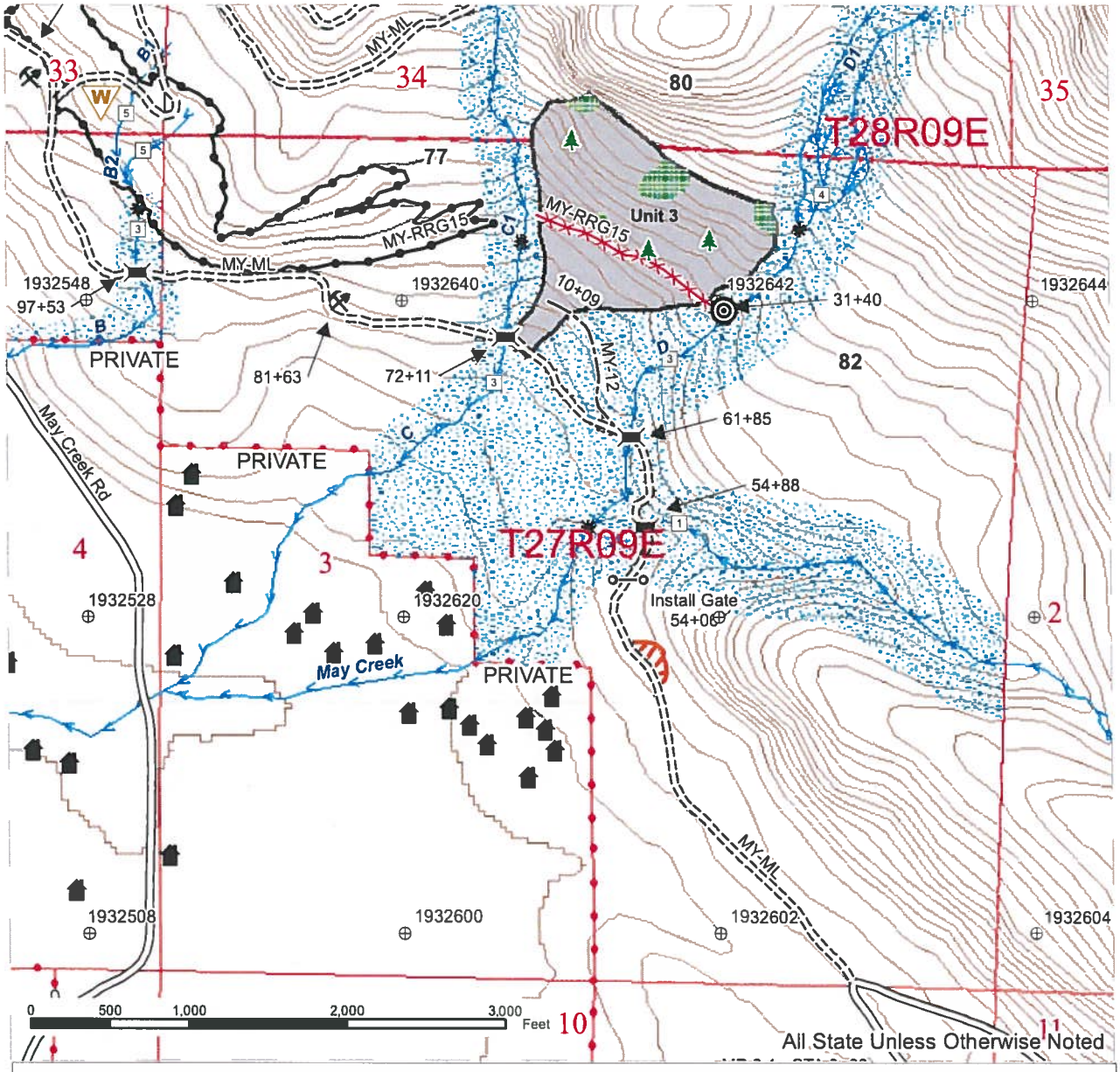
5. Courtney Liderman for Matt Fisher — **Landowner's Signature** — 1/15/2021 — **Date**

QQ-46W (Revised 12/22/06)

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MIDDLE MAY
APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
TOWNSHIP(S): T27R9E, T28R09E



DNR Managed Lands
Sale Area
Leave Tree Area
Riparian Mgt Zone
Proposed Pit

Existing Roads
New Construction
Temporary Construction
Orphaned Grade
Old Grades/Trails
Streams
Stream Type
Stream Type Break

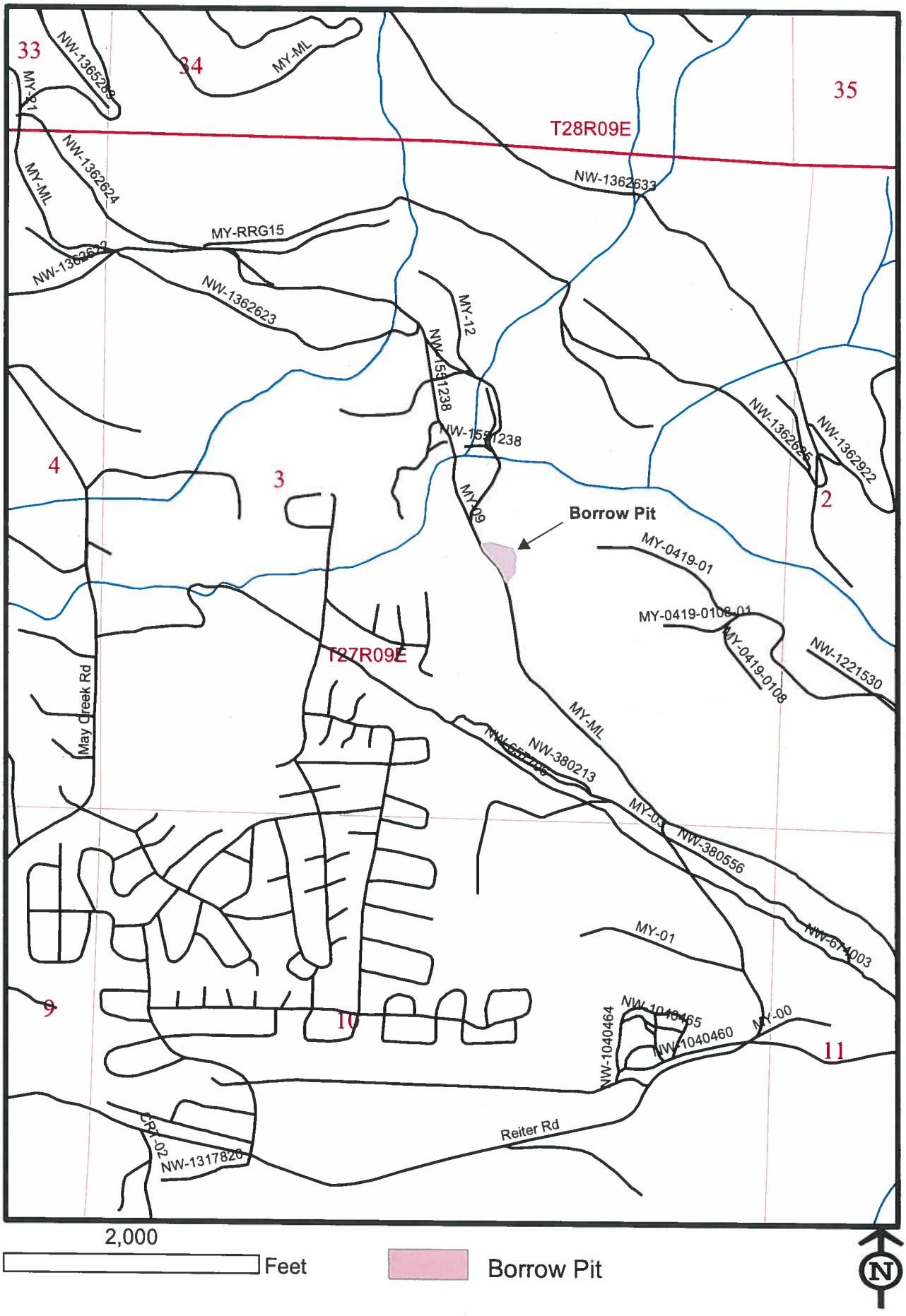
Bridge
Leave Tree Area <1/4-acre
Gate Installation
occupied Structure
Stream Bank Restoration
Rock Pit
Waste Area

N

Prepared By: twhi490

Modification Date: jmoo490 1/27/2020

Middle May Proposed Borrow Pit



Revisions to FPA/N _2817340_____

DATE	DOCUMENT	DESCRIPTION
2/28/2020	Pg. 2 slope form	Replaced page
3-2-2020	Activity Map	Replaced map - Sec 3
12/22/20	Transfer Form	Change of Operator
2/4/21	Transfer Form	Add an Operator

RECEIVED
JAN 15 2021
NW REGION

Forest Practices Application/Notification
NOTICE OF TRANSFER

I/we transfer my/our rights, privileges, and obligations under this approved Forest Practices Application or Notification. I/we affirm that the information contained below is true and agree to comply with the rules authorized by the Forest Practices Act and be bound by all conditions on the approved application or notification. Middle May 100161

FPA/N Number: 2817340 **Section(s):** 3 & 4 / 33 & 34 **Township:** 27 / 28 **Range:** 9E

Original Landowner (Signature): Courtney Coleman

Original Landowner (Printed): CORTNEY COLEMAN **Date:** 1 / 15 / 2021

New Operator – Complete this section **only** if you are:
☐ **Changing** an operator for: ☐ Road construction ☐ Timber harvest ☐ Aerial spray
☐ **Adding** an operator for: ☑ Road construction ☐ Timber harvest ☐ Aerial spray

Legal Name of New Operator: (Print)	Mailing Address:
ALRT Corporation	4040 Mt. Baker Highway Everson, WA 98247
Phone: (360) 592-5300 Email: bill@alrtcorp.com	

New Operator Signature: Bill Wantgen Date: 1/13/2021

New Landowner – Complete this section **only** if you are transferring your FPA to a new landowner
☐ No ☐ Yes Are you a small forest landowner per RCW 76.09.450 *(if yes, continue to question below)*
☐ No ☐ Yes Is your entire proposed harvest area on a single contiguous ownership consisting of one or more parcel(s)?

Legal Name of New Landowner: (Print)	Mailing Address:
Phone: Email:	

New Landowner Signature: Date:

New Timber Owner – Complete this section **only** if you are transferring your timber rights

Legal Name of Timber Owner: (Print)	Mailing Address:
Phone: Email:	

Forest Tax Reporting Account Number: (Contact Dept. of Revenue at: 1-800-548-8829)

New Timber Owner Signature: Date:

☑ **Received by:** A Schmidt **Date:** 2 / 4 / 21

(DNR Forest Practices Staff Signature) 11/01/2017